THE INDIAN SUGAR INDUSTRY—

(1947-48 ANNUAL)

Editor : **M. P. GANDHI**, M.A., F.R.Econ.S., F.S.S., J.P.

Proprietor, Bombay Commercial Corporation; Part-time Honorary Professor, Sydenham College of Commerce, Bombay; Member, All-India Board of Technical Studies in Commerce and Business Administration; Member, Provincial Rural Development Board, Bombay; Member, City Traffic Advisory Committee, etc.

Vol. XIII. NOVEMBER, 1948 Rs. 6/- By V.P.P. Rs. 6/8

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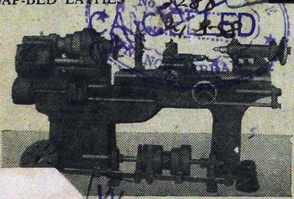

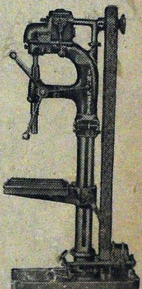

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Proprietor, Bombay Commercial Corporation; Editor, Indian Cotton Textile Industry Annual and Indian Sugar Industry Annual; Part-time Honorary Professor in Cotton Economics, Sydenham College of Commerce & Economics, Government of Bombay; Member, All-India Board of Technical Studies in Commerce and Business Administration; Member, Provincial Rural Development Board, Bombay.

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PREFACE

The Indian Sugar Industry can be said to have come to its own in 1947-48, as a result of the removal of the control which was imposed upon it with effect from April 1942. This policy of control, while it was useful in respect of maintenance of a fair price of sugar along with a fair distribution under the circumstances, failed in one if its main objectives, namely, maximisation of sugar production. Production of white sugar during this season rose to the figure of 10.56 lakhs tons, as against 9.01, 9.23 and 9.42 lakhs tons during the 1946-47, 1945-46 and 1944-45 seasons, respectively. In any case, the production recorded during 1947-48 was considerably higher than previous years, although it did not touch the high limits of 1939-40 and 1943-44, the two peak years of sugar production for the industry.

While this is a matter of some satisfaction, it is a matter of considerable concern to the country that prices of sugar and sugarcane have been continuously on the up-grade since the last few years, and the prices reached in 1947-48 can be considered extraordinarily high. This is due, however, to the necessity which the Government found of increasing the price of sugarcane to Rs. 2 per maund, with a view to enabling the cane cultivator to derive a fair profit on the cultivation of cane. There is no doubt that such a high price of cane has been responsible for a substantial increase in the price of sugar, which, at the present price, has become an article of luxury to a large number of people in the country. The price of sugarcane approximates between 60 per cent and 70 per cent of the price of sugar, and therefore, if any appreciable reduction is to be made in the price of sugar, it is essential to effect a reduction in the price of sugarcane.

Low Yield of Cane in India

It is a matter of great regret, however, that although the area under cane has gone up within the last 15 years and considerable increase has been witnessed in the acreage under improved varieties of cane, roughly 90 per cent of the acreage being under improved varieties, the yield of cane per acre is yet remarkably low. What is more, although there was some increase in the average yield of cane during the last few years, from 10 tons to about 14 tons per acre, the improvements seem to have been arrested since the last 5 or 6 years, and the fact remains that we are very greatly behind the other important sugar producing countries of the world in this respect. Our average yield of 14 tons per acre compares very unfavourably with the yield of about 56 tons in Java, 62 tons in Hawaii, 27 tons in the Philippines, 41 tons in Peru, 30 tons in Egypt, 21 tons in Australia, 28 tons in Formosa, and 22 tons in U.S.A. Our recovery of sugar from cane, in the vicinity of 10 per cent, also compares slightly unfavourably with the recovery of 11.9 per cent in Java, 12 per cent in Mauritius, Cuba and Formosa, and 14 per cent in Australia. On the other hand, we have seen that in the tropical parts of the country, in Bombay and Madras, it has been possible to obtain yields of between 50 to 60 tons per acre. On the authority of experts, it is possible to increase the average yield in the country to about 40-50 tons per acre, if organised efforts are made in this behalf. The Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, pointed out recently that the present price of sugar (Rs. 35-7-0 per maund) is a danger signal and efforts must be made to bring down the price of sugar and sugarcane, out of regard for the interests of the consumers.

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This, however, can only be done by embarking upon a carefully prepared plan for organised research in problems of sugarcane. It was precisely on this consideration that the 1947 Tariff Board recommended to the Government of India that a sum of 4 annas per cwt. out of the proceeds of the excise duty on sugar should be earmarked for such expenditure. At this rate about Rs. 50 lakhs would be available for this purpose annually, and this will mean an expenditure of about Re. 1-8-0 per acre on cane, there being about 32 lakhs acres under cane at present. The Government of India also accepted this recommendation, and made a grant of a sum of Rs. 47 lakhs in 1947-48.

Danger of Research Grant being cut

It is a matter of considerable disappointment to us, however, to learn from the speeches of Sir Datar Singh, President, Indian Central Sugarcane Committee, and of the Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, at the 10th meeting of the Indian Central Sugarcane Committee held at New Delhi on the 9th October 1948,* that the Government of India propose to cut down this grant to its former level, namely, Re. 0-1-0 per cwt. out of the proceeds of the excise duty on sugar.

For the sake of precision and ready reference, we give below the relevant extract from the speech of Sir Datar Singh at the Indian Central Sugarcane Committee meeting on the 9th October 1948 :

> "As a result of the representation of the Committee and the recommendation of the Indian Tariff Board, the Government of India were pleased to increase the annual grant from one anna to annas four per cwt. of white sugar produced in India and sanctioned a grant of Rs. 47.85 lakhs for developmental activities in 1947-48. During the present year, however, the Committee has been put in a great fix by the Government of India's intimation that 'it has not yet been agreed to raise the grant to the Committee in 1948-49 on the basis of annas four per cwt. of white sugar manufactured in the country. Until a decision to that effect is actually communicated to the Committee, it should proceed on the assumption that its grant will be fixed on the basis which prevailed before 1947-48, viz. one anna per cwt. of white sugar produced in the country'. This indecision only one year after sanctioning the increased grant has placed the Committee in an uncertain position and has prevented it from chalking out its future programme on the desired lines. The Committee, therefore, requests you, Sir, to kindly see that the decision of the Cabinet to sanction the increased grant to the Committee on a permanent basis is implemented. In this connection it might be pointed out that the annual net receipts of the Government of India from the Sugar Excise Duty amount to over six crores of rupees and that the annual grant from this Duty of only Rs. 47.48 lakhs to the Indian Central Sugarcane Committee for the expansion of its activities is fully justified."

Probably, such a step is deemed as an anti-inflationary move. We cannot help thinking that this will be a very short-sighted step on the part of the Government of India, and unless this position is reversed

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* For full text of the speech *vide* pp. xxxix to xlviii in "Sugar Industry at a Glance".

immediately, the sugar industry and sugarcane cultivation in the country will never prosper. The only way in which India can ever hope to compete with tropical countries favourably situated in the matter of production of cane, like Java, Philippines, Cuba, etc. is by undertaking short-term and long-term plans of comprehensive research with a view to increase the yield and bring down the cost of cultivation of cane. It should be remembered that the sugar industry in Java was built up to its erstwhile status only as a result of liberal expenditure on research work for improvement of the cane crop. This must definitely be done in India also, if the industry is to be stabilised and developed on sound lines. We therefore urge with all the emphasis at our command that the Government of India should immediately restore this grant for purposes of research on sugarcane to the level recommended by the 1947 Tariff Board, and accepted by them in 1947, for then alone there will be some hope for the industry standing in competition with the industry in other parts of the world, after a decade or two.

Appeal to the Hon'ble Finance Minister to continue the Grant as in 1947-48

It is fortunate that the Finance Minister at the present time is the Hon'ble Dr. John Matthai, who was a member of the first Tariff Board (1930) which conducted an inquiry into the necessity or otherwise of granting protection to the sugar industry. It was this Tariff Board which laid very great emphasis on the need for development and research, and pointed out that the whole purpose of the scheme of protection was likely to be delayed, if not defeated, and added that they regarded *research as almost a condition precedent to protection.* We have no doubt that the Hon'ble Dr. John Matthai, who has a thorough grasp and grip of this subject, particularly as a result of his association with this Tariff Board inquiry, will see that the decision of the Cabinet of 1947 to sanction an increased grant of 4 annas per cwt. out of the excise duty on sugar, to the Indian Central Sugarcane Committee, on a permanent basis, continues to be implemented, without any alteration.

We invite the reader's attention to the discussion on pages 117, 118, 119 and 120 in this connection, and particularly to the speeches of Sir Datar Singh, President, Indian Central Sugarcane Committee, and of the Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, at the 10th meeting of the Indian Central Sugarcane Committee on the 9th October 1948, on pages xxxix to xlviii in the portion entitled " Sugar Industry at a Glance "

Task of Tariff Board of 1948-49

The present protection to the sugar industry expires on the 31st March 1949, and the Government of India have referred the case of this industry to the Tariff Board for recommendation in regard to the continuance or otherwise of protection to it. When the 1947 Tariff Board reported, they came to the conclusion that the Indian sugar industry will need protection "for some time", and recommended that protection should be continued for a period of two years, at the end of which a further inquiry should be held when conditions in the industry in India and abroad became stable. On a very careful review of the present conditions of the industry, both in India and the world, we are definitely of the view that conditions in the industry at home and abroad

are far from stable, and this be[illegible]nion there is no point or purpose in a full-fledged inquiry by the Tariff Board, as it will not be able to get any reliable data in regard to normal costs of production, trends of production, international trade in sugar, etc. in the various countries of the world, at the present juncture.

Conditions in Indian Industry not Stable

Take, for example, the conditions in India. The price of sugarcane has gone up from Re. 0-10-0 per maund a few years ago to Rs. 2 per maund in 1947-48 by slow stages. The price of sugar has also gone up from Rs. 14 to Rs. 35 as at present, by slow stages. Conditions of labour are entirely unsatisfactory and wages are far from stable at the present time. Manufacturing costs are also constantly fluctuating due to fluctuations in prices of raw materials. While in 1947-48, the price of sugarcane was increased from Re. 1-4-0 to Rs. 2-0-0 per maund, there is now (November 1948) a move for bringing about a reduction in the price of sugarcane and of sugar, to implement the anti-inflationary policy which the Government of India decided to adopt since October 1948.

Conditions in World Sugar Industry Unstable

Correct reports about production and potentialities of the industry in Java, Russia, etc. are not available. Whilst there is general shortage of sugar in the world, Cuba is about to place *artificial restriction on her crop*. In some countries sugar is available *in abundance* for export which, however, is not possible due to difficulties of transport, or of hard currency and soft currency. In view of these conditions, it would be difficult for the Tariff Board to get reliable data regarding comparative costs of production, prices at which sugar can be produced and imported, trends of production of sugar in important countries in the world, treaties and agreements for sale of sugar in some countries, etc. for basing its conclusions for any change in the present protective duties. We have discussed this question at great length in this year's *Annual*, and in view of the cogent reasons advanced therein, we suggest that the Tariff Board should recommend to the Government continuance of the present protection to the industry for at least 3 years to come, at the end of which a detailed inquiry might be undertaken, when conditions in the industry become more stable both in India and in the world.

International Sugar Agreement in the Melting Pot

We have also referred to the trends of world production and cc sumption of sugar on pages 120 to 132 of the *Annual*; and have shown how difficult it is at the present time to get adequate data in regard to the world's costs of production and production trends. There is also a serious difference of opinion at the present time in regard to the continuance or otherwise of the International Sugar Agreement. At a meeting of the International Sugar Council held on the 23rd August 1948, at London, which was attended by representatives of 15 governments and by observers from the United Nations, the Food and Agriculture Organisation and four other countries, it was decided after a full discussion by the Council that "taking note of the opinions and views of Delegates as expressed at this meeting as to the difficulties of framing

a new Agreement at the present time, it is nevertheless resolved that a Committee be appointed (1) to study the changing sugar situation as it relates to the need or desirability for negotiating a new Agreement; and (2) to report to the Council, as occasion arises, its findings and recommendations as to the possible bases for a new Agreement in the future."

We invite the attention of the Indian Tariff Board which is now engaged in an inquiry into the sugar industry, to the uncertainty of the position and the instability of conditions in the world's sugar industry at the present time.

Agriculture is the Principal Applicant for Protection

We would also like to point out that the principal applicant for protection in this instance is not the industry, as is usually the case, but it is the Ministry of Agriculture of the Government of India as also the Governments of U.P. and Bihar, who are vitally interested in the continuance and well-being of this industry which has a unique link with agriculture. Government cannot view with equanimity any deterioration in the conditions of the Indian Sugarcane Industry as it would have very undesirable repercussions in the agricultural economy of the whole country. It is for this reason that the Provincial Ministries of Agriculture and the Indian Central Sugarcane Committee have recommended continuance of protection. We fervently hope that the Government of India will see to it that protection to the sugarcane industry is continued in a manner which will ensure that there will be no possibility of inroads of sugar from foreign countries, even for a temporary period, due to the cheapness of foreign sugar for the time being. The only way in which the industry can be put on a footing where it can compete successfully with foreign countries, sooner or later, is by organising research calculated to improve the efficiency of Indian agriculture in general, and of sugarcane cultivation in particular. We would, therefore, suggest that Government should immediately take all measures necessary for achieving this object of increasing the yield of cane per acre and reducing the cost of production at as early a date as possible. The salvation for the industry lies in increasing the efficiency of cultivation of sugarcane.

We would like to point out here that the technical efficiency of Indian sugar factories is fairly satisfactory, and this has been accepted by successive Tariff Boards. While there is some room for improvement in this respect, the possibilities are limited, indeed.

Protection will be needed for Sugar for a long time yet

We hold the definite view that the sugar industry in India will require protection *for a long time to come*, and we have no doubt that in appreciation of the fact that protection to the sugar industry, which is in effect protection to sugarcane cultivation, which again is an integral part of India's agricultural economy, Government will not hesitate in continuing protection as long as it is necessary to do so. We do not feel that even with the utmost expedition in the matter of improvement of yields of cane per acre with a view to bringing it to the level of conditions in Java, etc. protection can be done away with before a decade or two, and till then *adequate* protection for the cultivator of cane and manufacturer of sugar, against possible inroads from foreign countries, will be essential and indispensable.

Necessity of increasing Production of Sugar without increasing acreage under Cane

We also feel that it will be helpful if the present production of sugar and *gur* is doubled out of regard for the fact that the present *per capita* consumption in the country, which is the largest sugar producing country of the world, is very low, and this can only be done by intensive cultivation and by increasing the yield of cane per acre from the present average of 14 tons per acre to about 40-45 tons per acre. We also feel that this should be done *without increasing the area under cane,* as it will not be possible to put additional acreage under cane due to the increasing need of supplementing production of food in the country, of which there is considerable shortage. We recommend that this question of increasing the yield of cane per acre should be pursued intensively, and along with this the question of utilisation of palm trees which grow in large numbers in the country, for the manufacture of *gur* and sugar, should also be examined, as there are great potentialities.

The question of the scope of optimum production and consumption of sugar has been discussed in detail in Mr. M. P. Gandhi's publication, "Problems of Sugar Industry in India—Scope and Prospects of Reorganisation in Post-War Period" (425 pages), published in December 1945, with a foreword by Sir Purshotamdas Thakurdas, K.B.E. and we invite the reader's careful attention to this publication at this juncture.

Common Sugar Sales Organisation urgently needed

In the course of this year's study we have laid considerable stress on the importance of a common sugar sales organisation for the industry, instead of the present organisation of the Indian Sugar Syndicate which controls the sales only of the sugar factories operating in U.P. and Bihar. We have felt strongly for some time that in the interest of uniform development of the industry on sound lines, Government should consider the possibility, in consultation with the industry, of evolving a common sugar sales organisation to undertake the actual distribution of sugar all over the country on lines which would be suitable and fair to all the factories spread all over the country. We also feel that the Government should consider the question of compulsory membership of all factories in this organisation so that it may develop along the lines of the NIVAS in Java. Such a strong and unified central sugar sales organisation comprising every sugar factory in the country would be a tower of strength to the industry. We commend this question earnestly to the immediate attention of the Ministry of Agriculture of the Government of India. A discussion of this subject will be found on pages 114, 115, etc.

Power Alcohol Industry should be developed

We also trust that the Government will now take suitable measures for the utilisation of the molasses for the manufacture of power alcohol, for purposes of admixture with petrol.

Method of calculating Sugar Prices

As there is considerable lack of information, and consequently speculation in the minds of a large number of people in regard to the exact basis on which the ex-factory price of sugar is calculated, we have

given a table (No. 29A) on page xiv in the "Sugar Industry at a Glance". It sets out fully the details which show how precisely the ex-factory price of sugar is calculated, before approval is given for fixation of the price of sugar from year to year by the Governments of U.P. and Bihar and the Central Government.

We regret that as in the last year, we have not been able to publish this *Annual* early in 1948, as expected. The sudden change in the policy of the Government in regard to control generally and our awaiting the decision of Government in respect of the sugar industry which was arrived at late in October 1948, for allowing the industry to work without imposition of any control, have been responsible for the late publication. There was a certain amount of delay experienced in getting the full texts of the speeches of Sir Datar Singh, President, Indian Central Sugarcane Committee, and of the Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, at the 10th meeting of the Committee on 9th October 1948. As they are of considerable importance at the present juncture, particularly in view of the impending Tariff Board inquiry, we reproduce the same *verbatim* on pages xxxix to xlviii in the earlier portion of the *Annual* entitled "Sugar Industry at a Glance". Some further delay took place because we wished to pass under review some of the items covered in these speeches, particularly the proposed cut by the Government of India in the sugarcane research grant with effect from 1948-49 from about Rs. 50 lakhs to 12½ lakhs. as that will affect vitally the integrity and potentialities of this *second largest national industry of the country*, whose case of continuance of protection is again now engaging the attention of the Tariff Board. We hope that these will be sufficient reasons to convince the reader that the delay is more than compensated by the inclusion of this material and discussion of the various matters involved therein, at the opportune time.

It affords us genuine pleasure and satisfaction to note that this *Annual* is continually growing in popularity and that there is an increasing measure of appreciation of the usefulness of this publication, ever since it was first published in 1935. We are happy at the very highly appreciative references made in the press regarding the usefulness of this *Annual* as the only up-to-date book of reference containing an authoritative and comprehensive study of the problems before the industry in an unbiassed, critical and objective manner, and giving a lead in suggesting practical methods for improvement in the industry, from year to year. The *Annual*, we are pleased to find, has also been found to be of great use by the various Ministries of the Government, Central as well as Provincial, the Universities, the commercial and industrial community, Consular Services and our Trade Commissioners abroad, members of our Legislatures, and the general public.

We will consider ourselves amply rewarded if this publication succeeds in drawing the pointed attention of all interested in the industry, viz. the Government, the manufacturers, the cultivators, the consumers, and the general public, to the various pressing problems before the industry, and to the necessity of its further development and reorganisation on carefully planned lines in the future.

The importance of this industry—*the second largest in the country*—in the national economy need hardly be emphasised if it is remembered that it has stopped the drain of about Rs. 16 crores *per annum*, with the practical cessation of sugar imports, is supporting no less than

20 million agriculturists whose interests are indissolubly linked up with the future of this industry, has provided a channel for investment to indigenous capital estimated at Rs. 33 crores, has been responsible for finding employment for no less than 3,500 University men and 1,30,000 labour, skilled and unskilled, and has been responsible for augmenting the income of millions of cultivators as a result of improvements in cane cultivation during the last 16 years.

For the sake of ready reference, we have given current important legislative measures pertaining to the industry, and no less than 41 *up-to-date* statistical tables in an earlier portion of this *Annual*, styled "The Sugar Industry at a Glance". The portion "India's Present Sugar Position" (p. xlviii) also contains some up-to-date information.

Appendix I, gives a full and up-to-date list of the sugar factories in the Union of India showing the location, district, the nearest railway station, the daily cane-crushing capacity, and names and addresses, including telegraphic addresses of the Managing Agents or Proprietors. Mills which fall in Pakistan, along with the usual details are shown separately. A list of Refineries, and Geographical Distribution of factories are also given in the last two pages of the Appendix.

We are grateful to Shri M. P. Pai, I.C.S., Joint Secretary, Department of Industry and Supply, for his keen appreciation of the usefulness of this *Annual* (as also of our other *Annual* on the Indian Cotton Textile Industry) and for giving us permission to increase the number of pages liberally. This has enabled us to discuss various problems at great length.

We take this opportunity of thanking Shri S. C. Roy, the Director of the Indian Institute of Sugar Technology, Kanpur, for the help he has given us at all times. We are also thankful to the Ministry of Agriculture, Cane Commissioners of U.P. and Bihar, the Research Institutes in U.P. and Bihar, the Secretaries of the Indian Sugar Syndicate, and the Indian Sugar Mills' Association, and the Sugarcane Expert at Coimbatore, for the help they have rendered to us in maintaining this publication authoritative, reliable and up-to-date, so that it could be made use of safely by anyone needing reliable and up-to-date information regarding the industry.

We would be failing in our duty if we did not acknowledge the prompt and willing assistance we have received from the Chairman, Sugar Commission, U.P. and Bihar (Shri K. N. Singh), who has furnished us with considerable authoritative material on the industry after taking special trouble in this behalf. It has helped very much in adding to the value and authoritativeness of this *Annual*. We must also acknowledge the unfailing assistance received from the Indian Central Sugarcane Committee, the Directors of Industries, and particularly from Shri N. T. Mone, I.C.S., Joint Secretary, Ministry of Agriculture, who has provided us with much valuable information and up-to-date statistics, at short notice.

We have maintained the same style and *format* in this year's *Annual* as were introduced by Shri M. P. Gandhi, the Editor of this *Annual*, when the first *Annual* was published in 1935, as it makes it convenient for the readers to look for information at a particular place.

C/o Gandhi & Co.,
Jan Mansion,
Sir Pherozshah Mehta Road,
Fort, Bombay.
19th November 1948.

M. P. GANDHI,
Editor, Indian Sugar Industry *Annual*.

THE INDIAN SUGAR INDUSTRY—
(1947-48 ANNUAL)

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APPENDIX

List of Sugar Mills in India (also showing Mills in Pakistan) .. 1-32

STATISTICAL SECTION IN

"THE SUGAR INDUSTRY AT A GLANCE" (1947-48)

(Revised up to 30th October 1948)

Note.—Unless otherwise indicated, statistics for and after 1946-47 relate to the Union of India only.

TABLE No. 1

Number of Cane Factories working in India, including States, and Production of Sugar from Cane Factories, Gur Refineries, Khandsari, Net Import of Sugar in British India and Import in Kathiawar Ports during the last 17 years, and estimates for 1948-49.

Year (November October)	No. of Cane Factories working in India.	Cane Factory Production (November-October)	Sugar Refined from Gur (January-December)	Khandsari (Conjectural estimates) (Nov.-Oct.)	Total Production of Sugar in India (Nov.-Oct.)	Net Imports (Excluding Re-exports) of Sugar in British India (Nov.-Oct.)	Imports of Sugar in Kathiawar Ports (Nov.-Oct.)
		Tons	Tons	Tons	Tons	Tons	Tons
1931-32	32	159,580	62,000	250,000	471,000	493,000	93,000
1932-33	57	290,000	80,100	275,000	645,000	321,081	68,649
1933-34	112	454,000	64,900	200,000	718,900	233,366	87,094
1934-35	130	578,100	43,500	150,000	771,600	197,775	113,364
1935-36	137	932,100	47,900	125,000	1,105,000	86,962	45,218
1936-37	137	1,111,400	25,600	100,000	1,237,000	11,160	12,870
1937-38	136	930,700	17,200	125,000	1,072,900	9,410	12,238
1938-39	139	650,800	14,700	100,000	762,500	254,400	77,000
1939-40	145	1,241,700	26,500	125,000	1,393,200	34,093	32,743
1940-41	148	1,095,400	44,700	200,000	1,340,100	27,934	15,283
1941-42	150	778,100	20,400	100,000	898,500	23,843	6,608
1942-43	150	1,070,700	7,800	214,000	1,292,500	8	—
1943-44	151	1,216,400	7,700	150,000	1,374,000	14	—
1944-45	140	953,500	6,400	125,000	1,084,900	30	—
1945-46	145	944,800	4,000	117,000	1,065,800	—	—
1946-47	140	901,100	4,000	105,000	1,010,100	—	—
1947-48*	134	1,074,800	4,000	98,000	1,176,800	14,389†	—
1948-49	134	1,000,000	4,000	96,000	1,100,000	(Our estimates)	—

* Vide *Indian Trade Journal*, p. 386, dated 20th May 1948, and for 21st October 1948. Figures from 1946-47 onwards are for the Union of India only (Pakistan excluded).

† In 1947, 29,160 tons of Cuba Sugar were imported. Out of this 14,471 tons were delivered to Pakistan. This sugar was purchased at 6.3488 C per lb. nett F.A.S. Cuba or Rs. 474 per ton. *Vide* Letter from Ministry of Food, No. SS-508(3)47, dated 8th June 1948.

TABLE No. 2

Comparative growth of Sugar Factories in the various Provinces since 1931-32

(No. of cane-factories Working)

Figures from 1946-47 onwards relate only to the Indian Union.

Name of Province as in 1946-47	1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
U.P. ...	14	33	59	65	67	68	68	69	70	70	70	71	70	67	67	65	63
Bihar ...	12	19	33	34	35	33	33	32	32	32	31	31	31	29	29	29	29
East Punjab ...	1	1	5	6	4	5	3	3	3	4	4	4	2	2	3	10	1
Madras ...	2	2	4	8	8	11	8	7	10	11	11	10	12	11	11	11	11
Bombay ...	2	1	4	5	6	6	7	7	7	8	10	9	10	10	10	9	10
West Bengal & Assam ...	...	...	2	5	6	6	6	8	9	9	9	8	6	4	7	2	3
Orissa ...	...	...	...	...	...	...	2	2	2	2	2	2	2	1	1	1	1
Indian States ...	...	...	4	5	9	8	9	11	11	12	13	15	18	16	17	17	16
Total for India...	32	57	112	130	137	137	136	139	145	148	150	150	151	140	145	135	134

TABLE No. 3

Number of Sugar Factories in various Provinces, working in 1947-48, Actual Quantity of cane crushed, sugar produced and Recovery percentage obtained, etc.

(Final Memorandum of the Director, Indian Institute of Sugar Technology, Cawnpore, published in the Indian Trade Journal, dated 21st October 1948.)

Provinces (Union of India) including Hyderabad	No. of Factories Working	Cane Crushed	Sugar Made	Molasses Obtained	Recovery Sugar per cent Cane	Recovery Molasses per cent Cane
		Tons	Tons	Tons		
United Provinces ...	63	61,23,000	5,99,900	223,500	9·80	3·65
Bihar ...	29	16,05,900	1,68,500	54,600	10·49	3·40
East Punjab ...	1	1,25,300	12,300	4,200	9·86	3·35
Madras ...	11	6,85,800	59,300	30,300	8·65	4·41
Bombay ...	10	8,96,000	81,090	30,900	11·05	3·32
West Bengal & Assam ...	3	52,000	4,810	2,000	10 84	4·00
Orissa ...	1	35,000	3,560	1,800	9·70	5·02
Indian States ...	16	14,76,100	1,36,500	63,500	9·24	4·30
Total ...	134	1,09,10,700	10,74,800	410,800	9·85	3·76

TABLE No. 4

Total, and *per capita* consumption of Sugar and Gur in India *

Year (November-October)	Consumption of Sugar in tons	Official Estimate	Consumption of Gur in tons	Per Capita Consumption: Sugar	Gur	Total of Sugar and Gur
				lbs. per head	lbs. per head	lbs. per head
1932–33	1,006,000	,,	3,240,000	6·3	20·2	26·5
1933–34	996,000	,,	3,486,000	6·1	21·5	27·6
1934–35	1,059,000	,,	3,701,000	6·5	22·6	29·1
1935–36	1,074,000	,,	4,101,000	6·5	24·8	31·3
1936–37	1,167,000	,,	4,268,000	7·3	26 7	34·0
1937–38	1,159,000	,,	3,364,000	7·2	20·9	28·1
1938–39	1,073,000	,,	2,131,000	6 6	13·1	19·7
1939–40	1,019,100	,,	2,441,000	6·4	18·0	24·4
1940–41	1,100,000	,,	3,414,000	6·7	20 6	27·3
1941–42	1,132,000	,,	2,829,000	6·0	18 5	24·5
1942–43	916,000	,,	3,015,000	5·9	20·1	26·0
1943–44	1,046,480	,,	3,499,000	6 5	23·8	30·3
1944–45†	1,236,000	,,	3,633,000	6·5	24·1	30·6
1945–46†	1 048,000	,,	3,553,000	6·0	24·0	30 0
1946–47†	977,000	,,	3,574,000	5·9	24·0	29·9

* Total value of sugar, including gur, available for civilian consumption in the year 1946-47 may be estimated at about Rs. 212 crores.

Price calculated at the rate of Rs. 21-0-0 per maund of sugar and Rs. 16-0-0 per maund of gur as the standard of average for the whole season.

Sugar @ Rs. 21–0–0 per maund and Gur @ Rs. 16 per maund

		Tons	Rs.	
1946–47	Sugar	9,77,000	52,44,76,000	@ Rs. 588 per ton.
	Gur	35,74,000	1,60,00,00,000	@ Rs. 448 per ton.
		Total Value	Rs. 2,12,00,00,000	Rs. 207 Crores.

Per capita expenditure on sugar and *gur* works out to Rs. 6.

† Estimates for 1944-45, 1945-46 and 1946-47 are of the Indian Institute of Sugar Technology, Kanpur. *Vide* Letter of 24-9-48.

TABLE No. 5

Per capita consumption of Sugar in various countries (pre-war)

United Kingdom ...	106	lbs.	per head	Cuba ...	88	lbs.	per head
U.S.A. ...	97	"	"	Java ...	11	"	"
Brazil ...	34	"	"	Japan ...	33	"	"
France ...	52	"	"	Union of South Africa	47	"	"
Australia ...	116	"	"	Netherlands ...	64	"	"
Germany ...	52	"	"	India	6 (in addition to 24 lbs. *Gur*)		

TABLE No. 6

Yearly World production, consumption and the carry-over of stocks of Sugar (cane and beet) for the last 15 years in thousand tons (Raw Sugar Value)*

Crop year (Sept. 1st to Aug. 31st)	Opening Stocks (Sept. 1st)	Production (Cane & Beet)	Consumption	Closing Stocks (Aug. 31st)	Percentage relation of stocks to Consumption
1932–33	12,069	24,692	26,193	10,568	40.3
1933–34	10,568	25,709	26,287	9,990	38.0
1934–35	9,990	26,191	27,188	8,993	33.1
1935–36	8,993	28,846	29,231	8,608	29.5
1936–37	8,608	30,818	30,549	8,877	29.1
1937–38	8,877	30,967	29,647	10,197	34.4
1938–39	10,197	29,478	29,406	10,269	34.9
1939–40	10,269	30,753	26,551	11,471	38.8
1940–41	...	30,498	...	...	...
1941–42	...	28,000	...	...	...
1942–43	...	28,000	...	...	...
1943–44	...	27,000	...	...	...
1944–45	...	26,000	...	...	...
1945–46	...	21,439	21,000 Est.	...	...
1946–47	...	28,051	...	...	...
1947–48(Est.)	...	29,275	28,000 Est.	...	...

(*In Thousands of Long Tons*)

Figures are in long tons (Long ton = 2,240 lbs.), (Metric ton = 2,205 lbs.), and (Short ton = 2,000 lbs.).

* Vide *International Sugar Journal*, April 1948. F. O. Licht's Sugar Report dated 31-3-1948 estimates smaller production.

TABLE No. 7

Average and maximum percentage of recovery of Sugar in factories in India and Java from 1932-33 to 1947-48 *

Year	*India* Average	*U. P.* Average	*Bihar* Average	*Bombay* Average	*Java* Average	*India Maximum*
1932–33	8.66	8.55	8.60	10.00	11.56	10
1933–34	8.80	9.08	8.32	10.00	12.84	10
1934–35	8.66	8.56	8.79	10.37	12.55	11.10
1935–36	9.29	9.60	8.93	10.47	13.23	11.34
1936–37	9.50	9.65	9.20	10.68	12.77	11 43
1937–38	9.38	9.18	9.58	10 97	11.87	11.63
1938–39	9.29	9.14	9.00	11.29	11.77	12·25
1939–40	9.45	9.37	9.29	10.97	12.23	12.31
1940–41	9.70	9.87	9.86	9.94	...	11.15
1941–42	9.69	9.87	10.35	9.87	...	12.45
1942–43	10.28	10.16	10.93	10.64	...	13.35
1943–44	10.02	9.92	10.53	10.98	...	12.84
1944–45	10.21	10.20	10.69	10.79	...	11.84
1945–46	10.09	10.09	10.49	10.97	...	12.28
1946–47	9.88	10.03	10.08	10.30	...	13.46
1947–48	9.85	9.80	10.49	11.05	...	11.93

* Vide *Indian Trade Journal*, Calcutta, 21st October 1948

Statistics after 1946-47, for the Union of India.

TABLE No. 8

Capacity of factories and duration of crushing season in India *

Average Cane-crushing capacity of Factory (calculated on the basis of tons of cane crushed per day of actual working) in India.		*Maximum* Cane-crushing capacity of Factories per day in India.	
Year	Tons	Year	Tons
1934-35	517	1934-35	2,012
1935-36	568	1935-36	1,807
1936-37	630	1936-37	1,960
1937-38	660	1937-38	2,000
1938-39	630	1938-39	1,850
1939-40	710	1939-40	1,960
1940-41	690	1940-41	1,980
1941-42	640	1941-42	1,800
1942-43	690	1942-43	1,920
1943-44	708	1943-44	1,903
1944-45	681	1944-45	1,940
1945-46	697	1945-46	1,927
1946-47	738	1946-47	1,967
1947-48	742	1947-48	1,877

Duration of Cane-crushing Season (October-May)	1935-36 No. of days	1936-37 No. of days	1937-38 No. of days	1938-39 No. of days	1939-40 No. of days	1940-41 No. of days	1941-42 No. of days	1942-43 No. of days	1943-44 No. of days	1944-45 No. of days	1945-46 No. of days	1946-47 No. of days	1947-48 No. of days
Mean duration of Cane-crushing season in *All-India* ..	126	138	112	83	129	113	85	101	117	98	93	93	110
Maximum duration of Cane-crushing season in *All-India* ...	179	203	181	184	203	264	313	278	255	232	185	169	198
Mean duration of Cane-crushing season in *U. P.* ...	134	140	124	77	133	100	78	112	131	98	96	97	114
Mean duration of Cane-crushing season in *Bihar* ...	4	150	99	79	136	100	54	96	93	78	79	70	76
Mean duration of Cane-crushing season in "*All other Provinces*" ...	112	138	103	97	119	144	117	89	110	111	96	101	127

* Vide *Indian Trade Journal*, dated 21st October 1948, and previous issues.

TABLE No. 9

Acreage under Sugar-cane, under improved varieties, production of cane per acre, gross production of Gur, and calculated production of Cane-crop * from 1931-32 to 1947-48

(Statistics for 1947-48 relate only to the Union of India)

Year	Total acreage under sugar-cane in thousand acres	Acreage under improved varieties in thousand acres	Average cane production per acre (in tons)	Gross production expressed as gur (in thousand tons)	Calculated production of sugar-cane (10-11 factors) (in thousand tons)
1931—32 ...	3,076	1,170	14.1	4,116	43,316
1932—33 ...	3,425	1,845	14.9	4,859	51,129
1933—34 ...	3,422	2,295	15.3	5,055	52 455
1934—35 ...	3,602	2,433	15.1	5,292	54,346
1935—36 ...	4,154	3,056	15.3	6,102	61,202
1936—37 ...	4,582	3,452	15.6	6,932	67,322
1937—38 ...	3,997	2,968	15.5	5,579	55,637
1938—39 ...	3,270	2,673	15.0	3,572	35,851
1939—40 ...	3,788	2,893	15.0	4,849	47,732
1940—41 ...	4,749	3,529	15.0	5,992	60,668
1941—42 ...	3,671	2,831	15.0	4,549	46,491
1942—43 ...	3,755	3 004	15.0	5,323	54,295
1943—44 ...	4,389	3,545	13.8	6,063	61,782
1944—45 ...	4,305	3,604	13.2	5,679	57,699
1945—46 ...	3,825	2,589	14.0	5,416	......
1946—47	(Union only) 3,259	......	13.6	5,576	......
1947—48	(Union only) 3,583	......	......	4,658	......

* *Vide* Second Sugar Forecast, published on 6th May 1948. The area in 1946-47 for the Union of India alone was 3,259,000, and for undivided India 4,108,000 acres.

TABLE No. 10

Percentage of Cane used under different heads during the years 1932-33 to 1946-47 (November-October)

—	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
												[Our	Est	imat	e]
Cane used in Factories ...	6.5	9.8	12.3	16.0	17 6	17.8	16.2	27.7	19 1	21.2	25.0	25.0	25.0	24.0	24
Cane equivalent to *gur* used in refineries...	3 0	2.0	1 2	1.4	0.5	0.5	0.5	0.9	1.4	1.4	1.0	1 0	1.0	1.0	1
Cane used for *gur* manufacture ...	64.7	65.5	66.0	63.8	64.9	62 0	64.0	51.4	57.7	53.4	50.0	50.0	52.0	53 3	53
Cane used for other purposes, including *Khandsari*, Chewing, sets for planting, etc.	25.8	22.7	20.5	18.8	16.9	19.7	19.3	20.0	21.8	24.0	24.0	24 0	22.0	22.0	22
Total percentage ...	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

TABLE No. 11

Percentage of Cane crushed in factories to the total Cane-crop in various Provinces *

Season	U. P.*	Bihar*	Bombay	Bengal	Madras	India
1934-35	13.6	30.9	8.0	2.7	5.0	12.3
1935-36	17.1	40.4	11.7	4.8	5.4	16.0
1936-37	17.1	49.3	13.0	5.2	6.0	17.6
1937-38	18.6	62.3	14.0	...	...	17.8
1938-39	14.5	44.5	...	...	...	19.5
1939-40	25.5	48.4	...	...	...	27.7
1940-41	13.9	29.3	...	...	...	19.1
1941-42	14.6	...	...	...	...	21.2
1942-43	21.9	...	...	...	...	25.0
1943-44	25.7	...	...	...	...	25.0
1944-45	21.4	43.0	...	...	...	...
1945-46	23.2	42.9	...	...	...	...
1946-47	21.8	37.4	...	...	...	...
1947-48 (Est.)	21.9	43.0	...	...	...	...

*Figures based on Cane Development Department (U.P.) statement showing disposal of cane crop in the U.P. during 1934 to 1942 and on letters from Cane Commissioner, U.P., to Chairman, Sugar Commission, U.P. and Bihar, in 1945, 1946, and Director, Indian Institute of Sugar Technology, for 1947 and 1948.

TABLE No. 12

Cost of production of Cane per maund in

(*a*) Definite figures are not available. Cost of production varies from Province to Province from annas 0-3-0 to annas 0-7-0 per maund. (*Vide* 1939 Annual.)

(*b*) Enquiry undertaken by the Imperial Council of Agricultural Research in 1934, was concluded in 1938. Reports of cost in various Provinces were published in 1938 and 1939, and also referred to in Tariff Board's Report of 1937.

(*c*) Cost considerably increased since 1942, due to inflation, and soaring up of general price level. Consequently, minimum price of cane increased to Rs. 2 per maund in U.P. and Bihar in 1947-48.

TABLE No. 13

Estimate of total amount of money paid by Sugar factories to Cane-cultivators and workers, since 1932-33 to 1947-48.

Season	Estimated average price per maund of cane in U.P. and Bihar	Estimated amount paid for cane by factories to Cultivators (1)	No. of unskilled workers employed (2)	Estimated amount of wages paid to unskilled workers (3)
	Rs. a. p.	Rs.	No.	Rs.
1932-33	0 5 6	3,14,39,000	29,640	1,778,000
1933-34	0 5 6	4,83,98,000	67,200	4,032,000
1934-35	0 5 3	5,97,66,000	78,200	4,680,000
1935-36	0 5 3	8,81,03,000	82,200	4,932,000
1936-37	0 4 5	8,92,19,504	100,000	6,000,000
1937-38	0 5 1	8,57,53,775	100,000	6,000,000
1938-39	0 6 10	8,13,00,988	100,000	6,000,000
1939-40	0 8 5	18,81,09,460	100,000	7,000,000
1940-41	0 4 8	8,96,40,583	100,000	5,650,000
1941-42	0 7 0	6,15,00,000	100,000	4,000,000
1942-43	0 10 0	13,00,00,000	100,000	5,000,000
1943-44	0 12 0	18,00,00,000	100,000	5,500,000
1944-45	0 14 0	23,00,00,000	90,000	6,200,000
1945-46	0 15 0	24,56,00,000	100,000	6 600,000
1946-47	1 4 0	33,00,00,000	130,000	9,000,000
1947-48	2 0 0	61,00,00,000	130,000	11,000,000

(1) Based on statistics received from a large number of factories in U.P. and Bihar.

(2) Based on an assumption of an average factory employing about 600 workers.
(3) Based on an estimate of payment of 0-8-0 per day (upto 1941-42), and on the average working period of the season. After 1941-42, the estimate is on a 25 per cent higher basis.
(4) Dearness and allowances were increased by 50 per cent in 1942-43 and 1943-44, and *still more in 1945-46, 1946-47 and 1947-48.* Minimum wages were also increased in 1946-47.

TABLE No. 14

Import Duties on Sugar in Principal Countries in the World, and in India

As there have been so many changes due to the war in regard to the duties on sugar in the various countries, we are not giving the full table here. A reference may be made to the 1939 Annual for the import duties on sugar then existing.

The following table gives the present duties in India :—

Total Import Duty and Excise Duty on Sugar in India (1948-49) :—

Total Import Duty including 20 per cent surcharge on protective Import Duty and equivalent excise duty, with 20 per cent surcharge thereon		Rs. 11 11 2	per cwt.
	equivalent to	Rs. 8 9 6	per maund.
Excise Duty on Factory sugar		Rs. 3 0 0	per cwt.
in British India	equivalent to	Rs. 2 3 3	per maund.

The present protective import duty on Sugar will continue till 31st March 1949 under the Protective Duties Continuation Act, 1948.

TABLE No. 15

Excise Duty and Import Duty on Sugar, Sugar Candy * and Molasses in India

On Sugar per cwt.	Protective Import Duty per cwt.	Additional Duty per cwt.	Total Import Duty per cwt. Rs.
From 1st April, 1932 to 31st March, 1934	Rs. 7-4-0	Revenue surcharge @ 25% of protective duty Rs. 1-13-0	9-1-0
From 1st April, 1934 to 27th February, 1937	7-12-0 (0-8-0 being additional margin)	Equivalent excise duty Rs. 1-5-0	9-1-0
(Rs. 1-5-0 Excise Duty on domestic production of factory sugar) From 28th February, 1937 ...	7-4-0	Equivalent excise duty Rs. 2-0-0	9-4-0
(Rs. 2-0-0 Excise Duty on domestic production of factory sugar) From 1st April, 1939 ...	6-12-0	Equivalent excise duty Rs. 2-0-0	8-12-0
(Rs. 2-0-0 Excise Duty on domestic production of factory sugar) From 1st March, 1940 ...	6-12-0	Equivalent excise duty Rs. 3-0-0	9-12-0†
(Rs. 3-0-0 Excise Duty on domestic production of factory sugar) From 1st April, 1942 ... (Rs. 3-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Revenue surcharge of 20% on import duty and Equivalent excise duty of Rs. 3, with 20% surcharge thereon	11-11-3‡

* From 20th February 1934, a revenue duty of Rs. 10-8-0 per cwt. was imposed on *sugar candy* in place of Rs. 9-1-0 per cwt. The rate of import duty on *molasses* is 31¼ per cent *ad valorem* since April 1932.

†The import duty of Rs. 11-11-2 per cent per cwt. works out at Rs. 8-9-6 per maund and Rs. 3-0-0 excise duty per cwt. works out at Rs. 2-3-3 per maund.

This import duty has been continued till 31st March 1949 by the Government of India.

‡ Total import duty including surcharge of 20 per cent as from 1st April 1942.

TABLE No. 16

Yield of Revenue from Import Duty on Sugar in India from 1931-32 to 1948-49

Year (April-March)	Yield of Revenue Rs.	Year (April-March)	Yield of Revenue Rs.
1931-32	7,97,63,000	1940-41	18,24,000
1932-33	6 84,79,000	1941-42	1,94,000
1933-34	4,72,04,000	1942-43	56,000
1934-35	3,81,35,040	1943-44	1,14,000
1935-36	3,24,16,000	1944-45	1,000
1936-37	50,52,000	1945-46	14,000
1937-38	25,33,000	1946-47	2,000
1938-39	45,22,000	1947-48	...
1939-40	3,96,08,000	1948-49	...

TABLE No. 17

Excise Duty on all Sugar produced in British India and Yield of Revenue therefrom from 1938-39 to 1947-48 Fiscal year (April-March)

Amount of duty on Sugar	Yield of Revenue from Excise Duty (in Thousand Rupees)										
	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48 (Budget	1948-49 est.)
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Khandsari:	59	1,46	2,86	4,43	1,57	5,09	9,90	2,27	2,39	2,00	
Factory:	4,22,44	2,47,60	3,90,11	6,68,27	4,81,84	7,19,41	7,68,59	6,08,83	6,19,86	6,50,00 (approx.)	
Total ...	4,23,03	2,49,06	3,92,97	6,72,70	4,83,41	7,24,60	7,78,49	6,11,10	6,22,25	6,52,00	

TABLE No. 18

Average Price of Indian and Imported Sugar in India per maund of 82-2/7 lbs.

	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946 Dec. & 1947	1947 Dec. & 1948
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Indian 1st quality Special (Cawnpore market average quotation) (Factory Delivery Basis)	8-4	7-0	8-8	10-12	10-8	11-0	13-0	14-8	16-0 for D24	16-4 for D24	20-14 for D24	35-7 for D24
Imported Sugar (Calcutta market average quotation)	9-12	9-10	10-8	11-0	11-0	(No	import	hereafter)				

TABLE No. 19

Approximate Average Price of Gur per maund from 1941-42 to 1948

Gur Market	1941-42 Rs. a.	1942-43 Rs. a.	1943-44 Rs. a.	1944-45 Rs. a.	1945-46 Rs. a.	1946-47 (Dec.) Rs. a.	1948 (May) Rs. a.
Madras ...	4 2	9 6	9 10	9 4	15 12	12 5	9 12
Ahmednagar ...	6 5	14 14	15 9	12 4	13 12	18 0	11 12
Muzaffarnagar ...	5 13	8 15	6 12	9 7	12 9	...	13 6
Meerut ...	5 12	9 0	7 6	8 12	10 11	15 9	...
Bhagalpur ...	5 10	11 4	8 5	8 3	12 14	17 2	12 0
Dacca ...	9 7	...	...	26 4	25 9	39 0	...

* *Vide* Imperial Institute of Sugar Technology Letter No. 3161|Stat of 1-7-1947 and No. 43|44|Stat of 4-8-1948.

TABLE No. 20

Approximate Official Estimate of total Carry-over of Stocks of Sugar in India at the beginning of November, from 1931 to 1948

Year		Tons	Year		Tons
1931	...	32,000	1940	...	390,000
1932	...	19,000	1941	...	295,000
1933	...	9,000	1942	...	105,000
1934	...	30,000	1943	...	133,863
1935	...	23,000	1944	...	265,802
1936	...	*159,000*	1945	...	83,072
1937	...	211,000	1946	...	112,878
1938	...	102,000	1947	...	157,000
1939	...	105,000	1948	...	200,000 (Est.)

TABLE No. 21

Estimated Percentage of Gate-cane to the Total Quantity of Cane (i.e. Gate-cane and Rail-borne cane) crushed in Factories in the various Provinces *

Province	1934-35 %	1935-36 %	1936-37 %	1937-38 %	1938-39* %	1939-40† %	1940-41 %	1941-42 %	1942-43 %	1943-44 %	1944-45 %	1945-46 %	1946-47 %
Bihar ...	48	50	58	53	53	53	65	63	70	70	75	75	70
U. P. ...	65	66	68	72	66	62	69	80	85	85	85	78	70
Bengal ...	22	26	45	55	54	33	32	52	60	60	60	54	50
Punjab ...	...	51	61	69	57	47	55	80	80	80	80	78	72
Bombay ...	100	100	100	100	100	99	100	100	100	100	100	100	100
Madras ...	...	35	67	71	72	75	67	60	65	65	65	71	66

* Compiled by the Indian Sugar Syndicate Ltd. in September 1939.

† Compiled by us from the returns made *by factories* in 1939-40, 1940-41, 1941-42, 1942-43, 1943-44, 1944-45, 1945-46 and 1946-47.

TABLE No. 22

Statement showing Expenditure on Sugar Research by the Indian Council of Agricultural Research and the Indian Central Sugarcane Committee *

Year	Amount spent	Remarks for expenditure in 1945-46, 1946-47 and 1947-48
	Rs.	
1935-36	4,79,088	
1936-37	3,88,627	
1937-38	3,46,820	
1938-39	3,24,928	Since 1945-46, when the Indian Central Sugarcane Committee was established, the expenditure is shown under separate heads. Thus in 1945-46 and 1946-47 Rs. 2,85,000 and Rs. 4,30,000 were spent for Agricultural Research Schemes Rs. 4,49,000 and Rs. 5,84 000 for Technological Research Schemes, and Rs. 2,75,000 and Rs. 1,80,000 for Development Schemes.
1939-40	3,56,790	
1940-41	3,19,304	
1941-42	3,74,580	
1942-43	3,57,446	
1943-44	4,26,828	
1944-45	4,11,700	
1945-46	10,09,100	
1946-47	11,94,000	
1947-48	9,63,970	Of this Rs. 3,86,270 on Agricultural Research Schemes and Rs. 5,77,700 on Technological Research Schemes.

* Figures collected from official sources and furnished by Secretary, Indian Central Sugarcane Committee, 3, Pusa Road, New Delhi. [*Vide* Letter No. F.90(15)|48-2269, dated 14th May 1948.]

TABLE No. 23

Yields of Cane and Sugar per Acre and Recoveries in Different Countries *

Country	Yields of cane per acre		Recovery per cent cane	Yields of Sugar per acre	
	Tons	Mds.		Tons	Mds.
Cuba ...	17.12	465.9	12.25	2.095	57.03
Louisiana ...	19.84	539.8	8.06	1,602	43.58
Puerto Rico ...	24.16	657.7	12.23	2 956	80.44
Hawaii ...	62.05	1,689.0	10.46	6.489	176.6
Trinidad ...	...	...	10.69	...	...
Mexico ...	19.54	531.8	9.20	1.817	49.44
Martinique ...	17.93	487.8	8.13	1.458	39.68
Haiti ...	...	..	10.92	...	...
Argentine ...	13.05	355.1	9.89	1.290	35.13
Brazil ...	15.68	426.8	4.97	0.741	19.71
Peru ...	41.14	1,119.0	12 33	5.076	138.10
Egypt ...	30.42	827.9	9.97	3.032	82.50
Mauritius ...	19.63	534.3	12 08	2.370	64.51
S. Africa ...	22.36	608.4	10 90	2.439	66.36
Reunion ...	13.20	359.2	10.93	1.390	37.84
Java ...	56 20	1,530.0	11.49	6.440	175.30
India ...	14.70	399.9	9.50	1.394	37.95
Philippines ...	27.08	737.0	8.45	2.287	62.23
Japan and Formosa ...	28.27	769.3	12.93	3.657	99.51
Australia ...	21.34	580.9	14.33	3.060	83.08

* *Vide*, Report on Survey of Sugarcane, 1946.

TABLE No. 24

Java Sugar Statistics from 1935-36 to 1949-50

(In Thousands of Long Tons)

Crop-year	Initial Stock on 1st April	Production	Exports	Local consumption	Final stock on 31st March
1935-36 ...	1,585	505	863	285	942
1936-37 ...	942	583	975	309	241
1937-38 ...	241	1,392	1,017	306	309
1938-39 ...	309	1,376	1,163	315	206
1939-40 ...	206	1,550	1,214	304	238
1940-41 ...	238	1,679	837	351	628
1941-42 }					
1942-43 } ...	705	2,237	1,517		
1943-44 }			(Total of Exports	& Consumption)	1,500
1944-45 ...	1,500	84	...	...	...
1945-46 ...	...	25	...	...	...
1946-47 ...	...	25 }	...	600	980 (?)*
1947-48 (Est.)	980 (?)*	50 } ...	Nil		
1948-49 („)		60 }			
1949-50	...	150			

Vide *International Sugar Journal*, London, May and December 1946; and *Indian Trade Journal*, 3rd April 1947; Lamborn's *Weekly Sugar Market Report* of 22nd April 1947 and 22nd July 1947 (from New York). Harvesting of cane starts in Java in May.

*Latest reports indicate a stock of only 2,00,000 tons of suitable quality. Also see Part II of the *Annual*.

TABLE No. 25

Total Production, Import and Export of Molasses in India * from 1932-33 to 1947-48

Year Nov.-Oct.	Production of Molasses in India in Thousand Tons				Imports of Molasses into British India (Tons)	Export of Molasses from British India (Including Palmyra and cane jaggery) (Tons)
	From Cane Factory	From Gur Refineries	From Khandsari †	Total†	Apr.-Mar.	Apr.-March
1932-33 ...	130	56	275	461	31,991	819
1933-34 ...	190	40	209	430	2,401	1,201
1934-35 ...	234	22	150	406	415	1,153
1935-36 ...	337	33	125	495	Nil	1,026
1936-37 ...	406	10	100	516	Nil	24,195
1937-38 ...	349	8	125	482	5	79,167
1938-39 ...	242	6	100	348	2,160	52,676
1939-40 ...	485	7	125	627	2,000	16,000
1940-41 ...	424	32	100	556	...	...
1941-42 ...	293	7	100	400	...	...
1942-43 ...	369	2	214	585	...	...
1943-44 ...	438	3	150	592	...	...
1944-45 ...	328	3	125	456	...	...
1945-46 ...	338	2	111	451	...	...
1946-47‡ ...	318	2	79	399	...	...
1947-48 ...	410	2	75	477	...	...

* After 1936-37, statistics regarding Burma are excluded.

† Official estimates.

Vide *Indian Trade Journal*, dated 21st October 1948.

‡ Pakistan excluded after 1946-47.

TABLE No. 26

Total value of Sugar Machinery imported in British India from 1932-33 to 1946-47

(In Thousands of Rupees)

Source	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
U. K.	91,48	1,95,87	73,60	49,70	68,49	43,15	30,16	......
Other Countries ...	61,63	1,40,51	31,84	16,00	26,66	26,21	31,20	......
Total ...	1,53,11	3,36,38	1,05,45	65,70	95,16	69,37	61,36	50,84

Source	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
U. K. / Other Countries } Total ...	Rs. 40,87	Rs. 20,41	Rs. 7,73	Rs. 8,20	Rs. 11,07	Rs. 30,43	Rs. 55,44

Total import for the 15 years comes to over Rs. 10½ crores.

TABLE No. 27

Calculated Net Production * of Gur in India for direct consumption, from 1931-32 to 1947-48

Year (November—October)		Calculated net Annual Production of *Gur* for direct consumption (in Tons)	Year (November—October)		Calculated net Annual Production of *Gur* for direct Consumption (in Tons)
1931-32	...	2,758,000	1940-41	...	3,414,000
1932-33	...	3,240,000	1941-42	...	2,829,000
1933-34	...	3,486,000	1942-43	...	3,015,000
1934-35	...	3,701,000	1943-44	...	3,499,000
1935-36	...	4,101,000	1944-45	...	3,633,000
1936-37	...	4,268,000	1945-46	...	3,578,000
1937-38	...	4,364,000	1946-47	...	3,574,000
1938-39	...	2,131,000	1947-48 (Est.)	...	3,017,000 (Excluding Pakistan)
1939-40	...	2,441,000			

* The net production of *gur* is calculated by deducting from the total yield of cane expressed in terms of *gur*, and published in the "Final General Memorandum on the production of the Principal Crops in India," by the Director-General, Commercial Intelligence and Statistics, the *gur* equivalent of the cane used for purposes other than *gur* manufacture. *Vide* letter No. 3174|stat., dated 2nd July 1947, from the Director, Imperial Institute of Sugar Technology, Cawnpore, to the Chairman, Sugar Commission, U.P. and Bihar, Cawnpore, for figures from 1944-45 to 1946-47 and 1947-48.

TABLE No. 28

Cane Factory Production of Sugar in U.P., Bihar and All-India (in Tons) from 1931-32 to 1947-48

Season	U.P.	Bihar	All-India	Total quantity of Cane Crushed all Factories in tons
1931–32 ...	66,312	75,091	1,58,581	17,83,000
1932–33 ...	1,40,344	1,28,610	2,90,177	33,50,000
1933–34 ...	2,73,774	1,39,957	4,53,965	51,57,000
1934–35 ...	3,15,600	1,84,038	5,78,115	66,72,000
1935–36 ...	5,30,000	2,50,200	9,32,100	98,01,000
1936–37 ...	6,08,600	3,29,300	11,11,400	1,10,87,000
1937–38 ...	5,31,300	2,25,300	9,30,700	99,16,400
1938–39 ...	3,20,300	61,600	6,50,800	70,04,800
1939–40 ...	6,59,600	3,22,100	12,41,700	1,31,31,700
1940–41 ...	5,13,300	2,46,100	10,95,400	1,12,90,000
1941–42 ...	3,82,900	1,17,300	7,78,100	80,26,300
1942–43 ...	6,12,500	2,37,400	10,70,700	1,04,18,500
1943–44 ...	7,27,100	2,12,400	12,16,400	1,21,37,800
1944–45 ...	5,28,900	1,69,900	9,53,500	93,43,300
1945–46 ...	5,25,600	1,78,600	9,44,800	93,59,500
1946–47 ...	5,25,800	1,48,200	9,20,600	93,46,500
1947–48 ...	5,71,000	1,79,400	10,56,700	1,05,53,900

Vide *Indian Trade Journal*, dated 20th May 1948.

* Excluding Pakistan.

TABLE No. 29

Chart of Grade Prices of Sugar per maund as fixed by the Indian Sugar Syndicate, Kanpur, for the Season 1947-48 (Effective from 8th December 1948)

Prices likely to be decreased in 1948—49 season.

—	29	28	27	26	25	24	23	22	21
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
AA...	36 8 0	36 6 0	36 4 6	36 2 6	36 1 0	35 15 0	35 13 6	......	......
A ...	36 6 0	36 4 0	36 2 6	36 0 6	35 15 0	35 13 0	35 11 6	35 9 6	35 7 6
B ...	36 3 6	36 1 6	36 0 0	35 14 0	35 12 6	35 10 6	35 9 0	35 7 0	35 5 0
C ...	36 1 6	35 15 6	35 14 0	35 12 0	35 10 6	35 8 6	35 7 0	35 5 0	35 3 0
D ...	36 0 0	35 14 0	35 12 6	35 10 6	35 8 6	35 7 0	35 5 6	35 3 6	35 1 6
E ...	35 14 6	35 12 6	35 11 0	35 9 0	35 7 6	35 5 6	35 4 0	35 2 0	35 0 0
F ...	35 13 6	35 11 6	35 10 0	35 8 0	35 6 6	35 4 6	35 3 0	35 1 0	34 15 0
G ...	33 12 6	35 10 6	35 9 0	33 7 0	35 5 6	33 3 6	35 2 0	35 0 0	34 14 0

Crushed Sugar		Grade	Rs. a. p.
"	...	13	35 12 0
"	...	12	35 9 0
"	...	11	35 7 0

The method and formula adopted by the Syndicate in fixing this price for 1947-48 is given below, as it will be of interest to readers.

* For prices fixed under the Sugar and Sugar Products Control Order, from 23rd October 1946 to 8th December 1947, *vide* our *Annual* for 1946-47, p. xiii. The price of D24 which was the standard sugar was Rs. 20-14-0 per maund.

TABLE No. 29A

Ex-Factory Price of Sugar as calculated for the U.P. and Bihar Sugar Control Board Meeting and adopted later

United Provinces : Season 1947-48

		Rs.	a.	p.
1.	Cost of cane at Rs. 1/4/- per maund	12	8	0
2.	Cess at -/1/- per maund	0	10	0
3.	Transport of cane	0	2	0
4.	Co-operative Societies Commission	0	2	3
5.	Basic Manufacturing Expenditure	2	13	3
6.	Additional Manufacturing Expenditure	3	6	0
7.	Excise Duty	2	3	3
8.	Extra Cost of Insurance	0	1	3
9.	Profit at 10% on Block Capital	1	4	3
10.	Special Allowance for Reserve	0	4	0
	Rs.	23	6	3
11.	Deduct return from Molasses	- 0	1	6
	Price of sugar per maund	23	4	9

Sugar price for U.P. would, therefore, work out as follows :—

		Rs.	a.	p.
(a)	As accepted by the Sugar Commission, the sugar price at Rs. 1/4/- cane price as per R. C. S. Scale	23	4	9
(b)	Compensation for the Award dated 26-6-47	0	3	0
(c)	Likely increase on account of Nimbkar Labour Enquiry Committee's findings :— 0-6-6 for increase up to Rs. 45 ... ...; 0-1-6 for the Standardisation.	0	8	0
(d)	Increased cane price by as. 12 per maund	7	8	0
(e)	Profit margin in addition to that allowed in price calculation	2	0	0
(f)	Difference between Indian Institute of Sugar Technology Scale and the Sugar Syndicate's Scale	0	5	4
(g)	Additional Cess at 2 as. per maund	1	4	0
	U.P. Price Rs.	35	1	1
	For Bihar the price would be more by Rs. 2-10-0, minus Rs. 1-4-0 being the U.P's additional cost for cess	1	6	0
	Bihar Price Rs.	36	7	1
	The flat price per maund for U.P. and Bihar thus comes to Rs. ...	35	7	0

TABLE No. 30

Recovery of Sugar from Cane during 1936-37 to 1947-48

Provinces	Recovery of Sugar per cent Cane											
	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48
U.P. ...	9.65	9.18	9.14	9.37	9·87	9.87	10.16	9.92	10.20	10.09	10.03	9.80
Bihar ...	9.20	9.58	9.00	9.29	9.86	10.35	10.93	10.53	10·69	10.53	10.08	10.49
"All other Provinces"	9.60	9.77	9.91	9·88	9.34	9.22	9.95	9.94	9.92	9.84	9.37	9.69
All-India ...	9.50	9.38	9.29	9·45	9.70	9.69	10.28	10.02	10.21	10.09	9.88	9.85

Vide *Indian Trade Journal*, dated 21st October 1948.
* Excluding Pakistan.

TABLE No. 31

Production of Sugar directly from Cane in Modern Factories in India, 1929-30 to 1948-49 and Recovery Percentage for Java

Season	Number of Factories producing Sugar direct from cane	Cane crushed	Sugar produced	Percentage Recovery for India	Percentage Recovery for Java
		Tons	Tons		
1929–30 ...	27	989,776	49,768	9.07	11.76
1930–31 ...	29	1,317,248	119,859	9.00	10.92
1931–32 ...	32	1,783,499	158,581	8.89	11.56
1932–33 ...	57	3,350,231	290,177	8.66	12.84
1933–34 ...	112	5,157,373	453,965	8.80	12.55
1934–35 ...	130	6,572,000	578,115	8.66	13.23
1935–36 ...	137	9,801,748	932,100	9.29	12.77
1936–37 ...	137	11,687,200	1,111,400	9.50	11.87
1937–38 ...	136	9,916,400	930,700	9.38	11.77
1938–39 ...	139	7,001,800	650,800	9.29	12.23
1939–40 ...	145	13,131,700	1,241,700	9.45	
1940–41 ...	148	11,290,900	1,095,400	9.70	
1941–42 ...	150	8,026,300	778,100	9.69	
1492–43 ...	150	10,418,000	1,070,700	10.28	
1943–44 ...	151	12,137,800	1,216,400	10.02	
1944–45 ...	140	9,343,300	953,500	10.21	(Not Available)
1945–46 ...	145	9,359,500	944,800	10.09	
1946–47 ...	135	9,117,100	901,100	9.88	
1947–48 ...	134	10,910,700	1,074,800	9.85	
1948–49 (Our Est.)...	134	10,000,000	1,000,000	10	

* Excluding Pakistan.

TABLE No. 32

An interesting Table showing variations in *Per Capita* Consumption of Gur and Sugar in certain Rural and Urban Areas* in pre-war period (1937-38)

Name of Province	Gur		Sugar	
	Urban areas (lb.)	Total for the Province (lb.)	Urban areas (lb.)	Total for the Province (lb.)
United Provinces	13·2 (1)	53.9	58·1 (2)	8·3
Punjab	18·0 (3)	23·3	50·4 (4)	12·8
Bengal	15·4 (5)	22·8	85·5 (5)	6·3
Madras	8·9 (6)	12·1	51·2 (6)	4·4
Bombay	12·4 (7)	14·4	81·4 (7)	16·3
Sind	6·0 (8)	7·2	82·1 (8)	17·8

(1) 22 markets, (2) 29 markets, (3) 6 markets, (4) Delhi, (5) Calcutta, (6) Madras, (7) Bombay, (8) Karachi.

* Report on the Marketing of Sugar published by Central Agricultural Marketing Department (Government of India), 1943, p. 130.

TABLE No. 33

Value of Imports of Sugar,* Revenue from Imports, and Rate of Import Duty on Sugar from 1920-21 to 1947-48

Year April-March	Value of foreign Sugar (net) imported in British India in Lakhs of Rupees*	Revenue from Import Duty on Sugar in Lakhs of Rupees†	Rate of Import Duty
1920-21 ...	1,850	185	10 p.c. *ad valorem*
1921-22 ...	2,750	412	15 p.c. *ad valorem*
1922-23 ...	1,549	487	25 p.c. *ad valorem*
1923-24 ...	1,545	486	" "
1924-25 ...	2,090	578	" "
1925-26 ...	1,520	659	Rs. 4-8-0 per cwt.
1926-27 ...	1,534	744	" "
1927-28 ...	1,450	653	" "
1928-29 ...	1,586	782	" "
1929-30 ...	1,836	846	" "
1930-31 ...	1,047	1,081	Rs. 6-0-0 per cwt.
1931-32 ...	590	798	Rs. 9-1-0 " (Rs. 7-4-0 being protective and Re 1-13-0 being revenue surcharge from 1st April 1932.)
1932-33 ...	422	685	" "
1933-34 ...	270	472	" "
1934-35 ...	210	381	Rs. 9-1-0 per cwt. (Rs. 7-12-0 being protective & Re 1-5-0 being equivalent excise duty from 1st April 1934.)
1935-36 ...	190	324	" "
1936-37 ...	23	51	" "
1937-38 ...	18	25	Rs. 9-4-0 per cwt. (Rs. 7-4-0 being protective and Rs. 2-0-0 being equivalent excise duty from 28th February 1937.)
1938-39 ...	45	45	" "
1939-40 ...	331	396	Rs. 8-12-0 per cwt. (Rs. 6-12-0 being protective & Rs. 2-0-0 being equivalent excise duty. (With effect from 1st April 1939.)
1940-41 ...	36	18	Rs. 6-12-0 being protective and Rs. 3-0-0 being equivalent excise duty. (With effect from 1st March 1940.) Rs. 9-12-0 per cwt.
1941-42 ...	107	19	
1942-43 ...	...	·5	Rs. 11-11-2 per cwt. with effect from 1st April 1942 (i.e. including 20% surcharge on ordinary import duty of Rs. 6-12-0) and Rs. 3-0-0 being equivalent excise duty, and 20% surcharge thereon.
1943-44 ...	...	4·1	
1944-45 ...	...	·01	
1945-46 ...	...	·14	
1946-47 ...	...	·02	
1947-48 ...	...	...	

* Annual statement of sea-borne trade (Burma excluded from 1937-38).

TABLE No. 34

Detailed Statement of the Consolidated Final Sugarcane Estimates (Corresponding to the Final Forecast) for 1947-48, of the Indian Union (including Hyderabad State)

Provinces and States	Area (1,000 acres) Current year (1947-48)	Area (1,000 acres) Last year (1946-47)	Yield ('000 tons) of raw sugar (gur) Current year (1947-48)	Yield ('000 tons) of raw sugar (gur) Last year (1946-47)
U.P. (including Rampur States)	2,234	2,078	2,684	2,444
Bihar	366	398	361	393
East Punjab	378	338	396	411
Madras	247	203	681	592
Bombay (including Indian States*)	183	184	543	575
West Bengal	63	61	100	100
Assam	56	54	65	58
C.P. & Berar	47	42	62	54
Orissa	32	31	63	59
Delhi	4	3	3	2
Mysore	50	40	89	72
Hyderabad	106	79	192	127
Bhopal (Central India)	9	9	8	8
Baroda	6	5	18	15
Jaora (Central India)	3	3	4	3
TOTAL ...	3,784	3,528	5,269	4,913

*Included in the former Western India and Gujarat States, Deccan and Karnatak States Groups.

TABLE No. 35

Yields of Cane in Different Provinces in 1943-44*

Provinces	Area under Sugarcane in 1943-44	Yield of Cane 1943–44	Yield of Cane per (Acre)
	(In thousand Acres)	(In thousand Tons)	(Tons)
U.P. (including Rampur)	2,192	27,900	12.7
Punjab	553	5,730	10.4
Bihar and Orissa	456	5,380	11.8
Bengal	339	4,800	14.2
Madras	148	4,180	28.2
Bombay and Sind	169	5,290	31.3
N.-W. F. P.	90	1,000	11.1
Assam	45	500	11.1
C.P. and Berar	29	430	14.8
Delhi	3	20	6.7
Hyderabad	37	800	21.6
Mysore	40	700	17.5
Baroda	4	160	40.0
Bhopal	7	50	7.1
Miscellaneous Areas	156	2,170	......
Total ...	4,268	59,110	13.8

* Panel Report on Sugar, 1946.

TABLE No. 36

Consumption and Per Capita Consumption of Sugar in the various Provinces and States *

(With Population)

Provinces	1938-39 (Pre-war year.)			1941-42		
	Consumption (Tons)	Population in (million)	Per Capita Consumption lbs.	Consumption (Tons)	Population in (million)	Per Capita Consumption lbs.
Bengal ...	1,39,000	57.1	5.8	1,20,000	60.3	4.5
Bombay ...	2,44,000	26.2	17.0	2,40,000	27.9	19.2
Madras ...	88,000	48.2	3.4	90,000	49.7	4.1
Bihar ...	50,000	35.0	2.8(a)	66,000	36.3	3.6
U.P. ...	1,70,000	53,7	7.1	1,59,000	55.9	6.4
Punjab ...	1,64,000	32 2	11.8	1,99,000	34.0	13.1
C.P. & Berar ...	37,000	16 2	4 2	37,000	16.8	4.9
Assam ...	19,000	9.9	4.1	11,000	10.2	2.4
Sind & Br. Baluchistan ...	34,000	4.8	14.1	39,000	5.0	17.3
Orissa ...	8,000	8.4	......	7,000	8.7	......
N.-W. F. P. ...	13,000	2.8	6 2	15,000	3.0	11.1
Delhi ...	16,000	0·8	44.8	14,000	0.9	34.2
Rajputana ...	37,000	12 8	6.7	60,000	13.6	9.8
Central India ...	24,000	11.0	4.6	33,000	11.5	6.4
Nizam's Territory ...	19,000	15.8	2.7	23,000	16.3	3.2
Mysore ...	8,000	7.0	2.6	15,000	7.3	4.6
Kashmir ...	3,000	3.7	1.7	4,000	3.9	2.3
Burma ...	......	......	......	......	......	......
All India ...	10,73,000	345.6	6.6	11,32,000	361.3	7.0

* Panel Report on Sugar, 1946.

TABLE No. 37

Net Calculated Production of Gur in the Various Tracts of India in 1943-44 to 1946-47

(Figures in thousand tons.)

Areas	1943-44	1944-45	1945-46	1946-47
U.P.	16,06	13,56	12,59	13,37
Punjab	3,98	4,82	5,32	6,04
Bihar	1,40	1,21	1,31	1,66
Bengal	4,22	3,71	4,31	3,40
Madras	3,36	3,56	3,17	3,51
Bombay	3,31	3,50	3,27	2,85
N.-W. F. P.	81	87	86	1,02
Central Provinces	37	45	48	47
Orissa	52	49	52	46
Sind	2	1	1	7
Mysore	44	45	44	42
Hyderabad	1,04	99	1,02	84
Assam	54	62	59	46
Total ...	36,07	34,24	33,89	34,57

TABLE No. 38

Wholesale Prices of Wheat, Rice, Sugar, Gur and Sugarcane in Bihar and the United Provinces from 1939 to 1948, along with Index Numbers of Prices

—	Wheat, Dara (Hapur) per md.	Rice (Coarse) (Patna) per md.	Sugar, Marhowrah (Cawnpore) per md.	Gur, Eating (Muzaffar-nagar) per md.	Sugar Cane (U.P. & Bihar) per md.
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Aug. 1939 (Base) Index Price	100	100	100	100	100
Aug. 1939	2- 9-9	3- 0-0	9-13-0	8- 4-0	0- 7-0
Sep. 1939	2-15-3	3- 4-0	10-14-0	8- 8-0	0- 7-0
Sep. 1940	3- 3-6	4- 5-0	9- 4-0	4- 8-0	0- 5-6
Sep. 1941	4- 0-9	5- 6-0	9-12-0	3-10-0	0- 5-0
Sep. 1942	5- 0-0	7- 4-0	12- 4-0	10- 0-0	0- 8-0
Sep. 1943	13-10-0	20-0-0	14- 9-0	11- 0-0	9-10-0
Sep. 1944	9-12-0	11-12-0	15- 6-0	7-11-0	0-12-0
Sep. 1945	10- 4-0	10- 0-0	16-12-0	11- 2-0	0-14-6
Nov. 1946	10- 4-0	10- 9-0	21- 6-6	13-13-6	1-3-10½
Sep. 1947	10- 4-0	12- 5-0	21- 6-6	......	1-3-10½
Jan. 1948	19- 0-0	22- 0-0	36-12-0	9- 4-0	1-15-9*
March 1948	21- 0-0	17- 0-0	36- 4-0	11- 2-0	1-15-9

* Price fixed in December 1947 for cane in 1947-48 season. Price for cane to be fixed in December 1948 is expected to be lower.

TABLE No. 39

Statement showing Technical Efficiency of Factories in India as compared to other Countries

—	INDIA 1934	INDIA 1940–41	Natal 1941	Hawaii 1941	Queensland 1940	Java 1932	Cuba 1931	Formosa 1938	Mauritius 1941
Cane-sucrose per cent ...	11.21	12.18	14.00	11.05	16.04	13.22	13.865	13.09	13.30
Cane-fibre per cent ...	15.50	16.18	15.66	13.44	11.58	12.60	10.915	11.68	12.60
Mixed Juice purity ...	79.21	80.45	85.67	82.38	...	84.30	85.57	83.89	85.30
Extraction ...	90.65	91.22	92.37	96.32	95.46	94.60	94.62	97.62	95.20
Extraction reduced ...	92.72	93.43	94.13	96.61	95.05	94.66	93.73	97.43	95.10
Overall recovery ...	77.05	79.58	81.66	87.65	87.34	85.83	87.74	90.43	85.10
Overall recovery reduced : (Tech. Efficiency.) ...	83.35	85.04	82.61	89.44	...	86.36	86.62	90.83	84.02
Yield per cent as sugar ...	8.70	9.72	11.60	10.74	14.22	11.16	12.33	12.05	11.48
Yield per cent as sugar—96 Pol....	9.00	10.10	11.92	10.90	14.60	...	12.84	12.20	11.80

TABLE No. 40

Export of Sugar from India

—	1944–45	1945–46	1946–47
INDIAN SUGAR			
Quantity (tons). ...	6,647	7,075	1,823
Value ...	31,71,932	28,96,803	9,98,547
FOREIGN SUGAR			
Quantity (tons). ...	...	313	280
Value ...	...	2,12,373	2,12,770

TABLE No. 41

MINIMUM PRICES OF CANE SINCE 1943-44

Non-varying price for cane in U.P. and Bihar in 1943-44

Early in November 1943, the Government announced an increase in the minimum price of cane in U.P. and Bihar from As. 10 a maund which was the price in the 1942-43 season, to As. 12 a maund of cane. At the same time, the factories were directed not to pay the full price to the cane-grower all at once. One-sixth of the price, i.e. two annas a maund, was to be paid in Defence Savings Bonds or Certificates which were to be cashed one year after the war was over. The Government expected that on the basis of production of 9 lakhs tons of sugar in U.P. and Bihar, nearly Rs. 3 crores would thus be withheld from circulation and be of assistance in their anti-inflationary tendencies. The Punjab Government, finding that factories were unable to get cane at Re. 0-12-0, fixed Re. 0-14-6 per maund, and the Bengal Government fixed Re. 1 per maund.

Special Reduction in Cane Price towards the fag end of the Season, 1943-44

With effect from 15th May 1944, the U.P. Government announced a reduction of Re. 0-2-0 in the price of cane, i.e. to Re. 0-10-0 per maund, in order to induce factories to continue crushing and produce maximum quantities of sugar. The full amount was to be paid straight to cane-growers.

Discontinuance of Additional Special Cess of Re. 0-0-6 per maund of Cane in U.P. and Bihar in 1943-44

Additional Cess of Re. 0-0-6 per maund of cane imposed in 1940-41 to repay the deferred excise duty, for which an amount of Rs. 150 crores was borrowed from the Government of India, with a view to enable the Governments of U.P. and Bihar to give a temporary rebate of one rupee per maund of the excise duty, was discontinued from 1943-44 season, as the amount was fully collected and as the sum, along with the interest, was repaid to Government of India.

Raising of Ordinary Cess on Cane from Re. 0-0-3 to Re. 0-1-0 per maund in U.P. and Bihar in 1943-44

The rate of ordinary Provincial cess on cane which was Re. 0-0-3 per maund was, however, raised to Re. 0-1-0 per maund with effect from 1943-44, in U.P. and Bihar, in spite of protests of the industry. The proceeds of this cess will be credited to Provincial Revenues as usual. No portion of this cess is earmarked for any specific purpose.

Cane Prices and Cane-Cess During 1944-45 and 1945-46 Seasons in U.P. and Bihar

In October 1944, the Sugar Controller for India, after consulting his Advisory Committee, announced an increase of Rs. 1-7-0 in the Sugar price, thereby fixing the price of sugar of the standard quality (D.24) at Rs. 16-4-0 per maund. The Governments of U.P. and Bihar on the

basis of this increase fixed a cane price of As. 14. Thus the minimum price of cane for the season 1944-45 was fixed at annas 14 per maund of cane exclusive of cess to be paid by all factories.

In September 1945, the Governments of U.P. and Bihar announced the minimum prices for sugarcane in the 1945-46 season as follows :—

For U.P. Re. 0-14-6 per maund for cane delivered at the factory gate, and

Re. 0-14-0 per maund for cane purchased at outstations.

For Bihar Re. 0-15-0 per maund.

Cane Prices in the Punjab and Bengal (1945-46)

To enable factories in the Punjab and Bengal to get cane without any difficulty, the cane prices were fixed higher than in the U.P. and Bihar. The price fixed in the Punjab was Re. 1 per maund, while in Bengal it was as high as Re. 1-2-0 per maund.

Cane Cess in Bihar and U.P. (1944-45 and 1945-46)

A cess of Re. 0-1-0 per maund was levied on all sugarcane utilised in factories in Bihar. The sugar factories at Maharajganj, Baksar and the Gangadeshi Sugar Factory were exempted from payment of this cess in 1945-46.

In U.P. also, a cess at the rate of Re. 0-1-0 per maund was levied in 1946-47 as in 1944-45.

No compulsory deductions from cane prices for Defence Savings Certificates were made in the U.P. and Bihar during this season, the same having been abolished late in the 1944-45 season, i.e. in January 1945.

Cane Prices in other Areas in 1944-45 and 1945-46

Madras

In order to ensure adequate supplies of sugarcane to the sugar factories in the Province, the Madras Government prohibited crushing of sugarcane for the manufacture of jaggery except under permits in most of the factory areas and directed the cane-growers in specified villages in these areas to supply cane to the factories concerned. Basic minimum prices of sugarcane for delivery at the factory were fixed for all the factory areas in the Province taking into consideration the price of sugar, the percentage of recovery of sugar, the cost of cultivation and profits on alternative crops. The prices were fixed in such a way as to ensure that full benefit of the increase in sugar price since 1944 was passed on to the cane-growers by way of enhanced prices for cane. The prices so fixed ranged from Rs. 20-8 to Rs. 24 per ton in 1944-45 and from Rs. 21 to Rs. 26 per ton in 1945-46.

Mysore

The price fixed for sugarcane to be purchased from the ryots was Rs. 21 per ton in 1944-45 as against Rs. 18 in 1943-44.

Income from Cane Cess in 1945-46 and 1946-47

Usually the income accruing to the Provincial Governments of U.P. and Bihar from cane cess are merged in Provincial revenues and

no portion thereof is earmarked for any specific purpose. The income from the cess during 1946-47 is estimated at Rs. 90 lakhs in U.P. and Rs. 25 lakhs in Bihar.

Cane Cess in U.P. and Bihar in 1946-47

The Governments of Bihar and U.P. continued to levy a cess at the rate of one anna per maund of sugarcane which enter the areas comprised in the sugar factories in both the provinces.

On the 8th January 1947, the Government of Bihar, by an amendment of the Bihar Sugar Factories Control Act, 1937 (Bihar Act VII of 1937), imposed an additional cess of half anna per maund of sugarcane for the 1946-47 season. By a notification issued on the 3rd September 1947, the Government of Bihar remitted the cess at the rate of Re. 0-0-6 per maund, out of the total cess of Re. 0-1-6 per maund imposed under notification No. 58-D, dated the 8th January 1947, on all cane crushed during the crushing season 1946-47 in the Bihar factories. Thus, the net cess levied on factories in Bihar was one anna per maund, as in the U.P., for the 1946-47 season.

The Government of Bihar explained in a Press Note at the commencement of the crushing season 1946-47, that the price of sugar had been fixed by the Government of India at Rs. 20-14-0 per maund on the basis of a season of 90 days and sugar recovery of 10.5 per cent for Bihar, and 100 days and 10 per cent respectively for U.P. The price of sugar thus fixed was favourable to the Bihar factories, as the cost worked out at Re. 0-5-9 per maund more in the case of U.P. factories as compared with the Bihar factories. It was accordingly decided to tap this uncovered income and an additional cess of half anna per maund of sugarcane was imposed. Due to various reasons, the 1946-47 cane-crushing season lasted for a much shorter period than what was estimated and the sugar recovery was also much less, with the result that factories had to suffer loss instead of making profit. The Government of Bihar, therefore, decided in September 1947 to remit this additional cess of half anna per maund of sugarcane levied during the 1946-47 season. The amount was refunded to the factories in Bihar.

Cane Prices in Mysore, Madras and Bengal in 1946-47

Consequent on the increase in the sugar prices with effect from the 23rd October 1946, the Government of Mysore raised the price of sugarcane from Rs. 24 per ton to Rs. 32 per ton, for the season 1946-47. In Madras the minimum price for sugarcane varied from Rs. 29 per ton to Rs. 34 per ton at the various factories in 1946-47.

In Bengal the price of cane was fixed at Re. 1-6-0 per maund.

Cane Prices in U.P. and Bihar in 1946-47

The Government of India increased the prices of all grades of sugar by Rs. 4-4-0 per maund with effect from the 23rd October 1946, raising the price of D-24 sugar to Rs. 20-14-0 per maund. For the Punjab and N.-W.F. Province the price was fixed higher by about Rs. 3-2-0 per maund, i.e. at Rs. 24 per maund. The minimum price

of cane fixed by the Provincial Governments of U.P. and Bihar for their provinces for the 1946-47 season was Re. 1-4-0 per standard maund of 82 2|7 lbs. avoirdupois exclusive of cess at the rate of one anna per maund.

Cane Prices and Cess in U.P. and Bihar in 1947-48

On the 8th December 1947, the Government of India removed the control on sugar and *gur*. Since this date, there has been no fixation of prices of sugar by the Government of India, although the fixation of the price at Rs. 35-7-0 per maund by the industry was done with the approval of the Governments of U.P. and Bihar and the Government of India. With effect from the commencement of the cane crushing season in 1947-48, the cane price in U.P. and Bihar was fixed at a flat rate of Rs. 2 per maund in place of Re. 1-4-0 per maund in the previous season.

The following table will show the prices of sugar and sugarcane from 1942-43 up to 1947-48 :—

	Controlled price of sugar (D-24 quality) per maund.	Minimum price of cane in U.P. and Bihar per maund.
	Rs. a. p.	Rs. a. p. Rs. a. p.
1942-43 ...	14 0 0	0 10 0 + 0 1 0 cess
1946-47 ...	20 14 0	1 4 0 + 0 1 0 cess
1947-48 ...	35 7 0	2 0 0 + 0 3 0 cess

It will be of interest to note that the cane price constituted 60% of the price of sugar in 1947-48, less the amount of excise duty of Rs. 2-3-3 per maund. In 1946-47 the cane price constituted 70% on the above basis, and in 1943, the cane price constituted 57%.

A glance at the table will show that the cane price has been increased 320%, and sugar price by 250% during the last 5 years.

The cess on cane was increased to Re. 0-3-0 per maund in 1947-48.

Cane Prices in Madras, Mysore and Bengal for 1947-48

Consequent on the increase in sugar price with effect from the 8th December 1947, the prices of sugarcane in Madras, Mysore and Bengal were also raised. The Madras Government fixed the cane price at Rs. 54 per ton (in place of Rs. 34 per ton in 1946-47) and this price was linked with the percentage of recovery of sugar and the net amount realised by factories for the sale of sugar produced during the season. For the 1947-48 crushing season, that is, November 1947, to end of June 1948, a sliding scale of price for cane was fixed on the following basis :—

(i) If the average net amount realised by the individual factories from the sale of sugar produced during the season and sold upto 31st October 1948, is not less than Rs. 935 per ton, the factories will pay an average price not lower than Rs. 54 per ton for not less than 9% recovery ; where the recovery falls below 9%, an amount of Re. 0-10-0 per ton of cane shall be deducted for every 0.1% of fall in the outturn.

(ii) In the event of the average net amount realised by individual factories from the sale of sugar being below Rs. 935 per ton, the standard formula shall apply.

(iii) The price will be subject to a maximum total payment of Rs. 54 per ton of cane, in the case of factories whose average daily rate of crushing for the season has been less than 400 tons per day.

The initial delivery price will not be less than Rs. 38 per ton and the balance to be paid not later than 30th November after calculating the net average price per ton realised by the factories upto 31st October.

The formula accepted by the Government for the fixation of cane prices in future years is as follows :—

The price payable by factories for cane is to be calculated on the net amount realised by individual factories from the sale of sugar and on the actual recovery obtained by individual factories as follows :—

Sugar Price.	*Average Cane Price.*		
Above Rs. 840	60% of the net amount realised by individual factories from the sale of sugar divided by the actual number of tons of cane used in the production of one ton of sugar.		
Above Rs. 740 upto Rs. 840	59%	do.	do.
Above Rs. 640 upto Rs. 740	57%	do.	do.
Above Rs. 540 upto Rs. 640	55%	do.	do.
Upto and including Rs. 540	52-58%	do.	do.

The net amount realised by individual factories for the sale of sugar in this context will mean the net average price realised at the factory for 1 ton of white sugar after deduction of excise duty, new or increased direct taxes, and sugar selling commission where actually paid upto a minimum of 1%.

The factory at Hospet also reported that the price for unregistered cane was fixed on a slightly different basis than for registered cane as shown above. The factory paid Rs. 32 per ton immediately, and the cultivator was to apply in due course for the balance due under a scale fixed on the percentage basis of the above formula.

Mysore Cane prices in 1947-48

In Mysore the price of sugarcane was not fixed till May 1948, but it is expected to be in the neighbourhood of Rs. 45 per ton for the 1947-48 season, as against Rs. 32 per ton for the 1946-47 season.

West Bengal Cane prices in 1947-48

The price of cane in West Bengal and East Bengal was fixed at Rs. 2 per maund as in U.P. and Bihar. (Re. 1-14-0 at outstations, and Rs. 2 at the gate.)

Expected Minimum Cane Price in U.P. and Bihar and Sugar Price in 1948-49

During 1947-48 the cane price was increased to Rs. 2 per maund. In view of the desire of the Government to curb inflation it is expected that the price of sugarcane during 1948-49 will be reduced from its present level of Rs. 2 per maund to about Re. 1-8-0 per maund.

Income from Cane Cess in U.P. and Bihar in 1945-46, 1946-47 and 1947-48

A cess on cane has been levied by the Provincial Governments of U.P. and Bihar for several years. The following table gives the amount of cane cess levied from 1944-45 onwards along with the income and the expenditure therefrom :—

United Provinces:

Year.	Amount of cess per maund of cane.	Total Income from cess.	Expenditure incurred.
		Rs.	Rs.
1944–45	1 anna	1,11,92,000	2,57,200
1945–46	1 „	93,62,542	1,93.350
1946–47	1 „	87,04,000	1,17,000
1947–48	3 annas	2,36,00,000	......

Bihar:

Year.	Amount of cess per maund of cane.	Total Income from cess.	Expenditure incurred.
1944–45	1 anna	26,00,000	Information not available.
1945–46	1 „	30,00,000	
1946–47	1 „	25,00.000	
1947–48	3 annas	93,00,000	

The proceeds from the cess were, as usual, *merged in Provincial revenues and no portion thereof was earmarked for any specific purpose.* The Provincial Government, however, spent a substantial amount from general revenues during the aforesaid years on (i) the Cane Development Department, (ii) the staff for the reservation and bounding of sugarcane, (iii) the staff maintained for the administration of the United Provinces Sugar Factories Control Act, 1938, and the Rules made thereunder, and the Sugar and Sugar Products Control Order, promulgated by the Government of India, (iv) the Sugar Commission, (v) the special staff maintained at the Indian Institute of Sugar Technology in connection with the technical and statistical work entailed by the Sugar Factories Control Act and Rules, and (vi) the improvement of road communication in areas of cane supplies.

In Bihar the proceeds from the cane cess were merged in the General Revenues and no portion was set apart for any specific purpose. In 1948, however, it was announced by Government that except in times of financial stress, the proceeds of the cess on cane will be mainly available for schemes of sugarcane cultivation and research.

Sugarcane Cess in Bombay, too (1947-48)

A cane cess was also imposed in Bombay, in October 1948, at the rate of Re. 0-3-0 per Bengal maund, and was made applicable, retrospectively, on cane consumed in factories, with effect from 1st January 1948. The proceeds will be spent on development of cane, etc.

"THE SUGAR INDUSTRY AT A GLANCE" (1947-48)

SUGAR INDUSTRY (PROTECTION) ACT, 1939 *

(Present Duties to continue till 31st March 1949)

ACT NO. XX of 1939

An Act to provide for the continuance for a further period of the protection conferred on the sugar industry in British India.

Whereas it is expedient to provide for the continuance for a further period of the protection conferred on the Sugar Industry in British India, and to extend the date before which the Central Government is required under Section 3 of the Sugar Industry (Protection) Act, 1932, to lay before the Indian Legislature the proposals referred to in the said Section ;

XIII of 1932.

It is hereby enacted as follows :—

Short Title.

1. This Act may be called the Sugar Industry (Protection) Act, 1939.

Amendment of Sec. 3 of Act XIII of 1932†.

2. In Section 3 of the Sugar Industry (Protection) Act, 1932, for the figure "1939" the figure "1941" shall be substituted.

Amendment of First Schedule to Act XXXII of 1934‡.

3. In Item No. 17 of the First Schedule to the Indian Tariff Act, 1934 :—

* Received the assent of the Governor-General on March 31, 1941. For the Sugar Industry (Protection) Act, 1932, and the Sugar Industry (Temporary Extension) Act, 1938, *see* 1939 Sugar Industry *Annual*, pages 1 to 4.

† As amended, Section 3 of Act XIII, 1932, viz.: the Sugar Industry (Protection) Act, 1932, will read as under:—

3. The Governor-General-in-Council shall cause to be made by such persons as he may appoint in this behalf, an inquiry to ascertain if the protection of the Sugar Industry during the period from the 31st day of March 1941 to the 31st day of March 1946, should be continued to the extent conferred by this Act, or to a greater or lesser extent, and shall, not later than 31st day of March 1941 lay his proposals in this behalf before the Indian Legislature.

‡ As amended, Item No. 17 of the First Schedule to the Indian Tariff Act, 1934, will read as follows:—

17. Sugar, excluding confectionery	Protective	The rate at which excise duty is for the time being leviable on sugar, other than *khandsari* or *palmyra* sugar, produced in British India plus Rs. 6-12-0 per cwt.	Upto 31st March 1946

(*a*) In the fourth column, for the words and figures "plus Rs. 7-4-0 per cwt." the words and figures "plus Rs. 6-12-0 per cwt." shall be substituted;

(*b*) In the last column, for the figures "1939" the figure "1944" shall be substituted.

By the Protective Duties Continuation Act, 1944, the existing protective duties on sugar [as also wood pulp, paper, silk manufactures, gold and silver thread and wire] *were continued for a further period of two years, that is, upto 31st March 1946.*

Under Act 7 of 1946, it was provided that the life of the Indian Tariff Act, 1934 (XXXII of 1934), be continued for a further period of one year upto the 31st day of March 1947. The relevant portion in connection with the same as embodied in the Finance Act, 1946, is given below:—

"The additional duties of customs on certain goods chargeable with the duty of customs under the First Schedule of the Indian Tariff Act, 1934, or under the same Schedule read with any notification of the Central Government for the time being in force, imposed upto 31st day of March 1943 by section 6 of the Indian Finance Act, 1942, and continued, subject to certain modifications, upto 31st day of March 1946, by section 4 of the Indian Finance Act, 1945, as amended by section 4 of this Act shall continue to be levied and collected as provided under the said section 6 upto the 31st day of March 1947."

Note.—The total import duty on sugar (including the equivalent excise duty of Rs. 3 per cwt. and the surcharge of 20 per cent on both imposed with effect from the 1st April 1942) amounts to Rs. 11-11-2 per cwt. with effect from 1st April 1942.

A Tariff Board enquiry was undertaken in January 1947 and on its recommendations, protective duty was continued till 31st March 1948. This was again continued till 31st March 1949 by the Protective Duties Continuation Act, 1948.

SUGAR EXCISE DUTY ACT, 1934

(For Text of the Act, refer to earlier issues of the Annual.)

Excise Duty of Rs. 3 per Cwt.

INDIAN POWER ALCOHOL ACT, 1948 *

"WHEREAS it is expedient in the public interest that the power alcohol industry should be developed under the control of the Central Government;

It is hereby enacted as follows:

1. *Short title, extent and duration.*—(1) This Act may be called the Indian Power Alcohol Act, 1948.

(2) It extends to all the Provinces of India.

(3) This Act or such portion thereof shall come into force in such area, and on such date as the Central Government may, by notification in the official *Gazette*, specify in this behalf.

* Vide *Gazette of India*, 3rd April 1948.

2. *Declaration as to expediency of Central Government's control.*—It is hereby declared that it is expedient in the public interest that the Central Government should take under its control the development of the power alcohol industry.

3. *Definitions.*—In this Act, unless there is anything repugnant in the subject or context :—

(*a*) "molasses" means the heavy, dark-coloured residual syrup drained away in the final stage of the manufacture of sugar by vacuum pans in sugar factories either from sugarcane or by refining gur, when such a syrup has fermentable sugars (expressed as reducing sugars), but does not include the final residual syrup left in the manufacture of sugar by the open pan process".

(*b*) "petrol" means dangerous petroleum as defined in clause (*b*) of Section 2 of the Petroleum Act, 1934 (XXX of 1934) ;

(*c*) "Power alcohol" means ethyl alcohol containing not less than 99.5 per cent by volume of ethanol measured at sixty degrees Fahrenheit corresponding to 74.4 over proof strength.

4. *Production of power alcohol.*—(1) No person shall manufacture power alcohol from any substance other than molasses or such other substance as may be specified by the Central Government.

(2) If any dispute arises as to whether any substance is or is not molasses, the decision of an officer, authorised by the Central Government in this behalf, regarding such dispute shall be final and shall not be called in question in any Court.

5. *Power to regulate production and disposal of power alcohol.*—The Central Government may regulate the production and disposal of power by any distillery situated in any area in which this section is for the time being in force.

6. *Power to direct use of power alcohol as motive power.*—(1) The Central Government may, by notification in the official *Gazette*, direct that in such area as may be specified therein no petrol shall be sold or kept for sale except with the admixture of power alcohol.

(2) The proportion of petrol and power alcohol in such mixture shall in any area and for any purpose be such as may from time to time be specified by the Central Government but such proportion of power alcohol in the case of mixture with petrol meant for use as motive power for any motor vehicle shall not be more than twenty-five per cent or less than five per cent by volume.

(3) The power alcohol to be employed for such mixture shall be obtained from such distilleries as may, from time to time, be specified by the Central Government.

7. *Penalty.*—Whoever contravenes any of the provisions of sections 4 and 6 or any order of the Central Government issued thereunder shall be punishable with imprisonment which may extend to six months or with fine not exceeding one thousand rupees or with both, and in the case of a continued contravention with a further fine which may extend to one hundred rupees for every day during which the contravention is continued after conviction therefor.

8. *Delegation of powers.*—The Central Government may, by noti-cation in the official *Gazette*, direct that any power conferred by this Act shall, subject to such conditions, if any, as may be specified in the direction, be exercisable also by—

(*a*) such officer or authority subordinate to the Central Government, or

(*b*) such Provincial Government or such other officer or authority subordinate as may be specified in the direction.

9. *Offences to be bailable.*—All offences punishable under this Act or any rule made thereunder shall be bailable within the meaning of the Code of Criminal Procedure, 1898 (V of 1898).

10. *Power to make rules.*—(1) The Central Government may, by notification in the official *Gazette*, make rules for the purpose of carrying into effect the provisions of this Act.

(2) In particular and without prejudice to the generality of the foregoing powers, such rules may—

(*a*) provide for the licensing of the manufacture of power alcohol;

(*b*) prescribe the specifications and tests in respect of the purity of power alcohol intended for admixture with petrol in order to ensure its suitability for use in motor vehicles;

(*c*) fix the price at which power alcohol may be sold for the purpose of admixture with petrol;

(*d*) provide for imposing and collecting a duty of excise on power alcohol intended for admixture with petrol;

(*e*) prescribe conditions in respect of the transport and storage of power alcohol intended for admixture with petrol and for the manner in which the admixture is to be effected;

(*f*) prescribe the submission by a manufacturer of power alcohol or importer or distributor of petrol of returns regarding the power alcohol and petrol manufactured, purchased, stored or sold, as the case may be;

(*g*) provide for denaturing of power alcohol at the distilleries;

(*h*) provide for any other matter which is to be or may be prescribed under this Act.

(3) Rules made under this Act may provide that any contravention of such rules shall render the offender liable on conviction to a fine not exceeding one thousand rupees.

11.—*Power of exemption.*—Notwithstanding anything contained in this Act, the Central Government may, by notification in the official *Gazette*, declare that any of the provisions of this Act shall not apply to any case or class of cases."

HON. MINISTER'S SPEECH IN INTRODUCING THE ABOVE BILL

While moving in the Indian Parliament on March 22, 1948, that the Bill to provide for the development of power alcohol industry be taken into consideration, the Hon'ble Dr. Syamaprasad Mookerjee, Minister for Industry and Supply said :

Sir, the object of this Bill is to develop the production of power alcohol and also to take power in the hands of the Central Government to direct the use of power alcohol as motive power. The House will recall that the position of petrol in this country is indeed critical, and any step that Government may take to ease the situation shall be something in the undoubted national interest. At present we consume about 180 million gallons of motor fuel per year and 18 million gallons of aviation oil. In addition to this we consume about 800,000 tons of kerosene oil, 360 thousand tons of diesel oil, 700,000 tons of furnace oil and 70,000 tons of other minor oil products. So far as aviation oil is concerned, India does not produce anything. So far as motor fuel is concerned out of 180 million gallons that we consume we produce only about 17 to 18 million gallons in India. For the rest we are dependent on supply from foreign countries. Previous to the war we used to get about 75 million gallons from Burma. That supply has now stopped, and whatever we are now fortunate enough to get comes mainly from the Middle East.

Mixture of Power Alcohol

The question of mixing power alcohol with petrol has been a subject-matter of discussion in this country for the last ten years. But unfortunately there has been delay for some reason or other and up till now no directive policy of the Government of India has been indicated. Committees met, conferences were held and although it was generally agreed that the mixture of alcohol should be encouraged, somehow a Central policy of Government was lacking. The object of this Bill is to give this Central direction in a way which will be fair to all the Provinces as also serve our purpose so far as circumstances at present permit. Now it appears that power alcohol is being mixed with petrol in various countries. In Great Britain, France, Germany, Poland, Czechoslovakia, Italy and Australia this is done and power alcohol is obtained in those countries mainly from beet, potatoes, corn and from imported molasses. In Brazil it appears that the bulk of power alcohol is produced from molasses just as we propose to do in India. In fact there, nearly about 20 million gallons of power alcohol obtained from molasses are used with motor fuel. My friend Mr. Masani will soon be going to Brazil (applause) and he will be able to see at first hand how power alcohol is being used successfully with motor fuel.

India is one of the biggest sugar producing countries in the world. At present we have eleven distilleries in India. Ten are situated in U.P. and one in Mysore. Three are now under construction in Bihar. The power alcohol which is now being produced cannot be used because there is no law compelling the use of such power alcohol with petrol so that although U.P. produces more than it can possibly consume or even if Bihar may produce more than it can consume, unless there is some law compelling the use of power alcohol this production will practically remain fruitless. The object of this Bill is to secure the compulsory use of power alcohol to the extent of 25 per cent. That is the figure which experts have certified that we can safely and successfully use.

Mr. R. K. Sidhwa: With 75 per cent petrol?

The Honourable Dr. Syamaprasad Mookerjee: Yes. It is hoped that once this Bill is passed into law and the Government of India after conference with the Provincial Governments is able to develop power

alcohol industry, we shall have sufficient power alcohol in India which will give us some relief at any rate in the use of petrol. But of course I should warn here and state that the relief which we shall get will not be adequate. We expect to get not more than about 20 per cent relief in all. Even that will take some years.

If our development schemes go ahead properly, if the sugar production reaches the target that we have laid down, then in the course of the next four or five years we expect to get sufficient power alcohol to give us relief in the manner that I have indicated.

Grant of Protection to the Sugar Industry: Tariff Board's Recommendations and Government of India's Decisions thereon

The following is a Resolution [No. 218-T(25)|47, dated the 29th March 1947] of the Government of India in the Department of Commerce :—

In their Resolution No. 28-T(6)|46, dated the 20th January 1947, in the Department of Commerce, the Government of India requested the Tariff Board to hold a summary enquiry and advise Government whether, in the present circumstances, protection at the existing or at a different scale should be granted for a further year after the 31st March 1947, to the sugar industry.

The Board, having conducted an enquiry, has submitted its report. Its main recommendations are as follows :—

(1) The present Central Government grant to the Indian Central Sugarcane Committee of 1 anna per cwt. of sugar from the Excise Duty should be increased to 4 annas per cwt.

(2) All facilities should be given to the sugar factories to establish subsidiary industries.

(3) The present protective duties should be continued for a further period of one year.

The Government of India accept the recommendation that the existing protective duties should be continued for a further period of one year ending the *31st March 1948*. The necessary legislation to give effect to this decision will be undertaken as soon as possible.

The Government of India also accept recommendations (1) and (2) of the Board.

Fresh Tariff Board Inquiry in 1948-49

In March 1948, the present protective duties were continued by Government for one year ending on 31st March 1949. In the interval, the Tariff Board is examining the question of protection (November 1948).

U.P. AND BIHAR GOVERNMENT ACTS

U.P. AND BIHAR SUGAR CONTROL BOARD (1948-50)

The following persons have been nominated as Members of the reconstituted Joint Sugar Control Board of U.P. and Bihar, by notification dated 31st August 1948 for a period of 2 years from 1st July 1948 :—

1. The Hon'ble Minister for the time being of the United Provinces Government in charge of Development.
2. The Hon'ble Minister for the time being of the Bihar Government in charge of Development.
3. Shri Karamchand Thapar, 53|4, Hazara Road, Calcutta.
4. Shri Des Raj Narang, M.L.C., Basti Sugar Mills Co., Ltd., Basti.
5. Shri Krishna Kumar Birla, 8, Royal Exchange Place, Calcutta.
6. Shri R. L. Nopany, 178, Harrison Road, Calcutta.
7. Shri C. O'Malley, Begg, Sutherland and Company Ltd., Kanpur.
8. Shri Phool Singh, M.L.A.
9. Shri Har Sahai Gupta, M.L.C.
10. Shri Gauri Shankar Singh, Village Bhagwanpur, P.O. Bridgemamganj, District Gorakhpur.
11. Shri Jhulon Sinha, M.L.A., Bihar.
12. Chowdhury Kalika Prasad Roy, Dumraon, District Shahabad (Bihar).
13. Pandit Ganga Shankar Pandey, Kanpur Sugar Merchants' Association, Kanpur.
14. The Secretary to the Government of Bihar, Development and Employment Department.
15. The Secretary to the Government of the United Provinces in the Industries Department.

The Hon'ble Minister for the time being of the United Provinces Government in charge of Development is to be the *ex-officio* Chairman of the Board and the Secretary to the Government of the United Provinces in the Industries Department is to be the *ex-officio* Secretary to the Board.

U.P. AND BIHAR SUGAR COMMISSION

In August 1940, the U.P. and Bihar Governments set up a joint "Sugar Commission, which would be the final authority, subject to Government control, on all matters connected with the production and sale of sugar, as well as other matters regarding cane prices, etc." It may be observed that since the institution of Central Control over the industry, the Sugar Controller for India exercises some of the powers relating to sale, cane price fixation, etc. in the interests of an all-India policy and to that extent directs the Sugar Commission and its Chairman in the discharge of their duties.

The Chairman of the Commission in 1948 was Mr. K. N. Singh. The Cane Commissioners of U.P. and Bihar are *ex-officio* members of the Commission. They are also *ex-officio* members of the Board of Directors of the Indian Sugar Syndicate Ltd. The office of the Sugar Commission is located at Kanpur. The chairman is also the *ex-officio* Labour Commissioner of U.P.

U.P. AND BIHAR SUGAR FACTORIES CONTROL ACT

(Life Extended till 30th June 1950)

During 1942, the Bihar and U.P. Governments proposed an amendment to the Control Acts with a view to maintain the continuity of work and to continue the operation of the Acts till the end of the crushing season 1946-47. During 1946, the life of these Acts was extended till June 1950.

GOVERNMENT OF INDIA : DEPARTMENT OF FOOD

SUGAR & SUGAR PRODUCTS AND GUR DECONTROL NOTIFICATION

New Delhi, the 8th December 1947.

No. PY.603 (2)-X.—In exercise of the powers conferred by sections 3 and 4 of the Essential Supplies (Temporary Powers) Act, 1946 (XXIV of 1946), the Central Government is pleased to direct that as from the eighth day of December 1947—

(*a*) the following further amendments shall be made in the Notification of the Government of India in the Department of Food No. PY.603(2)-1, dated the 21st October 1946, namely :—

In the said Notification, for the words "foodstuffs including coconut oil, but excluding other edible oils, oilseeds and pulses other than gram" the words "foodstuffs, including gram and coconut oil, but excluding (i) other pulses, (ii) other edible oils, (iii) edible oilseeds, (iv) sugar, and (v) gur", shall be substituted;

(*b*) the Sugar and Sugar Products Control Order, 1947, the Gur Control Order, 1947, and all orders (other than the United Provinces Khandsari Sugar and Khandsari Sugar Products Control Order, 1947) made or deemed to be made under section 3 of the said Act by the Provincial Governments in the exercise of powers delegated to them under section 4 of the said Act in so far as such orders relate to the production, prices, supply or distribution of sugar or gur, shall cease to have effect except as respects things done or omitted to be done before the eighth day of December 1947.*

INDIAN CENTRAL SUGARCANE COMMITTEE FORMED IN 1944

The Government of India announced their decision to set up a Central Sugarcane Committee by a resolution No. F41-24|43A, dated 6th June 1944, of the Education, Health and Lands Department.†

* For Text of the Sugar and Sugar Products, Control Order, 1947, and Gur Products Control Order, 1947, please see 1946-47 *Annual*.

† The text is reproduced in 1945-46 *Annual*, pp. xxvii to xxix.

FORMATION OF THE INDIAN CENTRAL SUGARCANE COMMITTEE IN 1944

This Committee was inaugurated on the 29th November 1944, by the late Sir Jogendra Singh, the then Hon'ble Member-in-Charge of the Department of Education, Health and Lands, Government of India. The Committee was fully represented by various interests, viz.: the growers, the manufacturers, the traders and the consumers, so that the industry in all its important branches was fully represented in the Indian Central Sugarcane Committee. It is well recognised that representation of all interests is essential for the achievement of a co-ordinated policy. Originally the Committee had 45 members in all on its rolls, of whom sixteen were *ex-officio* members, including the *ex-officio* President, nine representatives were nominated by the Indian Sugar Mills' Association, there were three nominees of the Sugar Trade, one of the Sugar Factory-owners, four representatives of the *Gur* and *Khandsari*, three of the consumers, one nominee of the Sugar Technologists' Association. There were eight non-officials, representing agricultural interests, nominated respectively by the Governor-General-in-Council and the Governments of Madras, Bengal, Bihar, United Provinces and the Punjab. To this number of members the Sugar Controller for India and one representative of the Industries and Civil Supplies Department of the Government of India were subsequently nominated by the Governor-General-in-Council.

Prior to the formation of the Indian Central Sugarcane Committee, the responsibility for guiding sugarcane research in India and of advising the Central and Provincial Governments on matters relating to improvement and development of the industry, connected with sugarcane and its products, rested mainly with the Sugar Committee, appointed by the Imperial Council of Agricultural Research, and partly with the Imperial Institute of Sugar Technology, Cawnpore, which was under the direct control of the Government of India.

Funds of the Committee †

The proceeds of the Sugar Excise Fund, to which funds are credited at the rate of one anna per cwt. of white sugar produced in British India, out of the Excise Duty levied thereon, were utilised for the maintenance of the Imperial Institute of Sugar Technology and for sanctioning grants to the Provincial Governments for expenditure in connection with schemes of sugarcane research and development.

On the formation of the Indian Central Sugarcane Committee in November 1944, the responsibility for undertaking the improvement and development, marketing and manufacture of sugarcane and its various products in India, and of all matters incidental thereto, were vested in the Committee. The main lines of work undertaken by the Indian Central Sugarcane Committee, either under its direct control or through schemes subsidised by it included :—

(i) the production, distribution and testing of improved varieties of sugarcane under different sets of soil and climatic conditions ;

† From 1947-48, the grant is increased at the rate of Re. 0-4-0 per cwt. Government seem to have decided in October 1948 to reduce the grant again to Re. 0-1-0 per cwt.

(ii) the testing of improved cultural, manurial and irrigation practices;

(iii) the study of sugarcane diseases and pests, including the biological control of borers, etc.;

(iv) the technological and economic research on sugar and its by-products;

(v) the manufacture of *Khandsari* sugar and *gur*, by improved methods;

(vi) the grading and storage of white sugar, *Khandsari* sugar and *gur*; and

(vii) the improvement of crop forecasting and sugar statistics.

During the year 1947-48 the Committee continued to maintain the Indian Institute of Sugar Technology which serves as a teaching, as well as a research institution and which is also responsible for the maintenance of Sugar Standards, preparation of the returns under the Sugar Production Rules, Sugar Trade Information Service and for taking up any other special work connected with sugar as and when required by Central or Provincial Governments.

COMPOSITION OF THE INDIAN CENTRAL SUGARCANE COMMITTEE (1947-48)

List of Members of the Indian Central Sugarcane Committee

1. Vice-Chairman, Indian Council of Agricultural Research, New Delhi (President) : Sri Datar Singh.
2. Agricultural Commissioner with the Government of India, New Delhi.
3. Director, Indian Agricultural Research Institute, New Delhi.
4. Director, Indian Institute of Sugar Technology, Kanpur.
5. Agricultural Marketing Adviser to the Government of India, New Delhi.
6. *Government Sugarcane Expert, P.O. Lawley Road, Coimbatore.*
7. Director of Agriculture, Madras.
8. Director of Agriculture (Extension) Bombay, Poona.
9. Director of Agriculture, West Bengal.
10. Director, Central Sugarcane Research Station, Shahjahanpur.
11. Director of Agriculture, East Punjab, Simla.
12. Director of Agriculture, Bihar, Patna.
13. Director of Agriculture, Mysore, Bangalore.
14. Director of Agriculture, Hyderabad (Deccan).
15. Cane Commissioner, United Provinces, Lucknow.
16. Cane Commissioner, Bihar, Patna.
17. Cane Commissioner, East Punjab, Jullundur.
18. Plant Protection Adviser to the Government of India, New Delhi.
19. Joint Secretary to the Government of India, Ministry of Food, New Delhi.
20. Mr. J. D. Kapadia, I.C.S., Deputy Secretary, Ministry of Industries and Supplies, Government of India, New Delhi.
21. Lala Gurusharan Lall, C.I.E., Guram, South Bihar.
22. Mr. R. L. Nopany, 178, Harrison Road, Calcutta.
23. Mr. K. K. Birla, 8, Royal Exchange Place, Calcutta.

24. Sir Shankar Lall, 20, Curzon Road, New Delhi.
25. Mr. D. R. Narang, Basti Sugar Mills Ltd., Basti, U.P.
26. Representative, Indian Sugar Mills Association.
27. Mr. Lalchand Hirachand, Construction House, Ballard Estate, Fort, Bombay.
28. Mr. B. T. Kempanna, C|o The Mysore Sugar Co. Ltd., Shree Jayachamaraja Wadiar Road, Bangalore City.
29. Mr. C. J. Goodman of M|s. Ramnugger Cane & Sugar Co. Ltd., 7, Wellesley Place, Calcutta.
30. Khan Sahib Sheikh Nasirur Rahman Kidwai, Baragaon Co-operative Marketing Union Ltd., Baragaon, Barabanki, Dist. U.P.
31. Mr. Intisaruddin Haqani, General Manager, Nizam's Sugar Factory, Hyderabad (Deccan).
32. Mr. Balai Chand Saha, Director, Nuddea Farms Ltd., Santipur (West Bengal).
33. Mr. W. D. Chitale, Chitalenagar, Dist. Sholapur.
34. Shree R. Devaraja Reddi, Pallalakuppam, P.O. Mailpatti, District North Arcot.
35. Shree R. Venkatasubha Reddi, Tindivanam (South Arcot Dist., S.I.).
36. Non-official representing agricultural interest of the West Bengal Government.
37. Mr. Phool Singh, M.L.A., Vakil, Saharanpur.
38. Lala Har Sahai Gupta, M.L.C., Shankar Agricultural Farm, Bilari, District Moradabad.
39. Non-official representing agricultural interest of the East Punjab Government.
40. Mr. Dip Narayan Sinha, M.L.A. of Purantand, P.O. Bhagwanpore, Dist. Muzaffarpur.
41. Mr. Raghunath Singh Kiledar, M.A., of Bhugwara, P.O. Kareli, Tehsil Narasinghpur.
42. Non-official representing agricultural interest of India.
43. Seth Maneklal Ujamshi, President, Bombay Sugar Merchants' Association Ltd., 104-114, Frere Road, Opposite Victoria Dock, Bombay 9.
44. Mr. Madangopal Chowdhury, B.A., LL.B., President, Kanpur Sugar Merchants' Association, Kanpur.
45. Sahu Jagdish Prasad, C|o L. H. Sugar Factories & Oil Mills Ltd., Pilibhit, U.P.
46. Sardar Jogindra Singh, P.O. Dhungaha. Dist. Bahraich, U.P.
47. The Hon'ble Mr. Karamat Ali, Member, Council of State, Jorhat, Assam.
48. Mr. Nandkishore Das, Soro, P. S. Soro, Dist. Balasore.
49. Mr. R. H. Khan, Secretary, Sugar Technologists' Association, Kanpur.
50. Dr. R. Nagan Gowda, Ph.D. (Agr.), Hospet P.O., Bellary District.
51. Sir T. S. Venkatraman, Kt., C.I.E., 56, Thyagaraja Road, Thyagarajanagar, Madras.
52. Dr. Punjabrao Shamrao Deshmukh, Amraoti, C.P.
53. Shri *Therumal Row*, 19, *Pethapuram Nagar*, Tynampet, *Madras*.

RESOLUTIONS OF INDIAN SUGAR MILLS ASSOCIATION, 1947

Resolutions of the 15th Annual General Meeting of the Indian Sugar Mills Association, held on 29th November 1947, at New Delhi

Decontrol of Sugar

This Association welcomes the decision of the Government of India to decontrol sugar and requests for early declaration of the details of their policy in this behalf and suitable action thereon.

Cane Development

This Association regrets that during a period of more than fifteen years, that is, ever since protection was granted to the sugar industry in 1932, there has hardly been any improvement in methods of cane cultivation with the result that there has been no increase in the output of sugar per acre.

Since the cost of cane accounts for more than 60 per cent of the total cost of sugar at present the Association desires to stress that unless cane cultivation in this country comes up to the standard of other leading sugar producing countries it will not be possible for India to compete in the world markets and till such time as the cost of cane is reduced by proper scientific development work the country will have to depend upon State protection.

This Association is convinced that there is enormous room for improvement in cane cultivation and, further, that the interests of millions of cane growers in our country imperatively call for an immediate all-out drive for development of cane cultivation.

From this point of view this Association welcomes the decision of the Govrenment of India to increase the rate of allotment to the sugar excise fund from one anna to 4 annas per cwt. The problem of cane development, however, is so stupendous that its successful solution predicates not only much larger funds but also a re-orientation of the whole policy and close collaboration between the Government of India (through the Central Sugarcane Committee) and the Provincial Governments. This Association earnestly urges the Central and Provincial Governments to take suitable steps in this behalf and, if necessary, appoint an All-India Commission to investigate into and report on the problem of cane cultivation on the lines of Sugar Committee appointed in 1921.

Protection to the Sugar Industry

This Association notes that on the recommendation of the Interim Tariff Board the period of present protection to the sugar industry has been extended till the 31st March 1948. The Tariff Board was, however, precluded by its terms of reference from recommending extension for more than one year, although it appreciated and has even mentioned in its report that protection should be extended for a longer period. This Association, therefore, requests the Government of India to further extend the existing period of protection to the sugar industry for another

two years without holding a tariff enquiry which, as suggested by the Tariff Board, should be postponed till the return of normal conditions.

In this connection, the Association considers it essential to point out that the main disability of the industry to do away with protection has been the lack of development in methods of cane cultivation with the result that both the yield of cane per acre and its sucrose content in India still compare very unfavourably with other leading sugar producing countries and till such times that this country attains the same standard of cane cultivation as obtaining in other sugar producing countries the industry will have to depend on State protection.

Transport Difficulties

This Association invites Government's attention to the fact that owing to serious transport difficulties factories have not yet been able to procure even essential stores, like coal, fuelwood, sulphur, soda, gunnies, etc. in requisite quantities, which in the case of a seasonal industry, like the sugar industry, should be received by the factories before the commencement of crushing operations to avoid any dislocation during the crushing season. This Association, therefore, urges upon the Government of India to accord the highest priority for movements of stores to sugar factories during the season so as to ensure their regular and uninterrupted working.

Difficulties of the Sugar Industry in Bombay Presidency

This Association notes with concern the policy followed by the Government of Bombay towards the sugar industry of that Province, which has created a sense of insecurity and shaken its very foundation, as is evident from the acts of that Government, viz. not supplying sufficient water required for the proper growth of sugarcane, imposing the responsibility of growing foodcrops on the industry to such an extent as to greatly reduce the output of sugar, trying to interfere with the leases of lands lawfully executed by the sugar companies, particularly the passing of the order dated 21st October 1947 by which the sugar companies (who account for about 10 per cent of the country's sugar production) are required to put 50 per cent of their holding under foodcrops, when, knowing the seriousness of the food situation in the Province they have already put an acreage under foodcrops equal to their acreage under cane, a step which itself has brought about a reduction of their sugar output to the tune of 25,000 tons in the last four years and that too at a time when, like food shortage, the country is experiencing sugar shortage as well and when the Government of India are anxious to maximise the output of sugar in the country. This Association records its strong disapproval of this policy of the Bombay Government and urges upon them the urgent need of re-consideration and revision of the same.

Subsidiary Industries

This Association notes with satisfaction the Government of India's assurance to assist the sugar factories in the establishment of subsidiary industries and hopes that it would go a long way towards promoting the development of these industries.

Labour Policy of the U.P. Government

This Association deprecates the steps taken by the U.P. Government in utter disregard of the interests of the industry and the consumer in tackling the labour problems in the province during the last season and hopes that in future the industry would also be taken into confidence and given an opportunity to express its views before any policy is formulated or implemented in regard to labour matters.

SUGARCANE COMMITTEE PROCEEDINGS—OCTOBER 1948

In view of the great importance of the various questions touched, and the views expressed thereon by Sir Datar Singh, President, Indian Central Sugarcane Committee, and by the Hon'ble Minister for Food and Agriculture, Shri Jairamdas Daulatram, at the meeting of the Indian Central Sugarcane Committee held at New Delhi on the 9th October 1948, we reproduce *verbatim*, their speeches, as we are sure they will be found very helpful by various interests.

Speech delivered by Sir Datar Singh, welcoming Shri Jairamdas Daulatram

The President of the Indian Central Sugarcane Committee, Sir Datar Singh, in welcoming the Hon'ble Shree Jairamdas Daulatram, Minister for Food and Agriculture, Government of India, and in requesting him to inaugurate the Tenth General Meeting of the Indian Central Sugarcane Committee at New Delhi on the 9th October 1948, said :—

" Honoured Sir,

I consider it a great privilege to welcome you this morning and to request you kindly to inaugurate this Tenth General Meeting of the Indian Central Sugarcane Committee. We appreciate greatly the keen interest that you have been taking in research and development of all agricultural commodities required by the teeming millions of this country. We are convinced that it is only due to your love for the country and your desire to raise its food production that you have given us this indulgence this morning to open our meeting in spite of your numerous preoccupations. Permit us, Sir, to express our sincere gratitude to you for this kindness.

I am glad to say that in response to the Hon'ble Shree Rajendra Prasadji's appeal for subscribing to the Gandhi Memorial Fund, the staff of this Committee and of the Sugar Institute at Kanpur have contributed their small mite of about Rs. 2,450. The Committee has under consideration other proposals to set up a suitable Memorial in memory of our beloved FATHER OF THE NATION.

India one of the largest Sugar Producing Countries

Although India is believed to be the original home of the Sugarcane and *gur* and Khandsari and even crystallised sugar were made and used here from very ancient times, yet most of its requirements of white sugar were met, until recent times, by imports from Java, etc. Such imports came to about a million tons of sugar per year, causing a large drain of about 15 crores of rupees per annum. This position was revolutionized as a result of the policy of protection started in 1932 and now

India instead of depending on imports of white sugar has become one of the largest sugar-producing countries of the world.

Lucknow Institute of Research—perhaps largest in Asia

Prior to the inauguration of the present Indian Central Sugarcane Committee in 1944, the researches on sugarcane in all its aspects were guided by a permanent Standing Committee of the Indian Council of Agricultural Research on which different interests such as of growers, manufacturers, traders and technologists were fully represented. The whole responsibility of the improvement and development of the growing, marketing and manufacture of sugarcane and its products has now devolved on this body. The Committee has now acquired a large area at Lucknow for starting an Institute of Sugar Technology and Sugarcane Research. It is expected that after it is fully developed, this Institute will, perhaps, be the largest of its kind in the whole of Asia, if not in the whole of the world. The Committee also proposes to take over the control of the Sugarcane Breeding Station at Coimbatore, so that all aspects of sugarcane work such as breeding, agronomy, research and control of diseases and pests and problems of sugar technology might be investigated under one Central Organisation.

Research Grant coming under Cut

As a result of the representation of the Committee and the recommendation of the Indian Tariff Board, the Government of India were pleased to increase the annual grant from anna one to annas four per cwt. of white sugar produced in India and sanctioned a grant of about Rs. 47.85 lakhs for developmental activities in 1947-48. During the present year, however, the Committee has been put in a great fix by the Government of India's intimation that "it has not yet been agreed to raise the grant to the Committee in 1948-49 on the basis of annas four per cwt. of white sugar manufactured in the country. Until a decision to that effect is actually communicated to the Committee, it should proceed on the assumption that its grant will be fixed on the basis which prevailed before 1947-48, viz. anna one per cwt. of white sugar produced in the country". This indecision only one year after sanctioning the increased grant has placed the Committee in an uncertain position and has prevented it from chalking out its future programme on the desired lines. *The Committee, therefore, requests you, Sir, to kindly see that the decision of the Cabinet to sanction the increased grant to the Committee on a permanent basis is implemented.* In this connection, it might be pointed out that the annual net receipts of the Government of India from the Sugar Excise Duty amount to over six crores of rupees and that the annual grant from this Duty of only Rs. 47-48 lakhs to the Indian Central Sugarcane Committee for the expansion of its activities is fully justified.

Export Possibilities

With the huge surplus of sugar from the last year's crush caused by restricted movement and certain other factors, this appears to be a golden opportunity for capturing foreign markets in the Middle East, Turkey and the Gulf Ports where about 2 lakhs tons of sugar can be exported, if the price of Indian Sugar is reduced to a level of about Rs. 26 per maund. It appears that due to dollar difficulties these countries would welcome Indian Sugar if only they can procure it at reason-

able prices. This opportunity of capturing the foreign market deserves the careful consideration of all concerned.

Reduction in Sugar Price

The price of sugar is very largely determined by the price of sugarcane, which in its turn depends chiefly on the availability of sufficient quantities of cane and on its yield per acre. The cost of this raw material forms more than 60 per cent of the total cost of manufacture of sugar and hence the future of the Sugar Industry will depend principally upon effecting substantial increases in the production by intensive cultivation, resulting in increased yield of cane and the consequent reduction in the cost of its cultivation. Unless an all-out attempt is made by all concerned the industry that has so far been built up will be crippled and the national aim of making India self-sufficient in sugar will be completely defeated. Based on the cost of cultivation the price of sugarcane per maund has risen from *Re. 0-8-0 in 1942-43 in the U.P. and Bihar to Rs. 2 per maund in 1947-48*. The Commtitee proposes to discuss today the question of recommending to the Government of India the remunerative price of cane that should be fixed for the next year. The ex-factory price of average quality sugar, of D-24 quality, was Rs. 20-14-0 per maund from 23rd December 1946 but from the date of decontrol in December 1947 the selling price of sugar has been fixed by the Indian Sugar Syndicate, with the concurrence of the Governments of U.P. and Bihar at Rs. 35-7-0 per maund. There has been a good deal of controversy in the country whether the price of this essential commodity should rule so high and cause great hardship to the consumer. It is expected that this important matter too will receive due attention of the authorities concerned.

New Research Schemes

Amongst the other important items on our agenda, which we will be considering today, I would like to mention the following. We are to consider the 5-Year Development Schemes submitted by the new Provinces of East Punjab and West Bengal which differ from similar schemes started in other Provinces in the fact that the Governments of these newly created Provinces have requested an exemption from contributing 50 per cent of the expenditure in view of their depleted financial condition and the abnormal troubles they have undergone due to the partition of their respective Provinces.

Parasites of Sugarcane

We are also considering a new Scheme submitted by the Indian Agricultural Research Institute for fundamental research of the promising parasites of sugarcane pests wherein it is stated that the knowledge of the behaviour of parasites and the host|parasite relationship would lead to the evaluation of the merits of each parasite and finally to the determination of the parasite which could be most advantageously used to control the pest in the field.

Saving in Fuel Consumption

A Revised Scheme for a Survey of the Causes of Excessive Fuel Consumption in Indian Sugar Factories will also be examined with a view to adopt such control measures as to eliminate the extra fuel consumption which often takes place in sugar factories and to make it

possible to save a large quantity of the bagasse, which could then be usefully utilized for other purposes. The Indian Sugar Standards fixed and distributed by our Sugar Technological Institute for both size and colour of sugar crystals are now recognized by both the industry and the trade in this country. We have to consider today whether the Indian Central Sugarcane Committee should join the newly created Indian Standards Institution of New Delhi, as a sustaining member and also be represented on the Indian Society for Quality Control, Calcutta. Another important question for consideration is the desirability or otherwise of extending an invitation to the International Society of Sugarcane Technologists to hold their next Conference in India.

We are grateful to you, Sir, for giving us the indulgence of your company this morning and agreeing to open our meeting. We have a heavy agenda before us and on behalf of the Committee and of my own I request you to inaugurate this meeting and to permit us to start our deliberations thereafter."

Speech delivered by the Hon'ble Shri Jairamdas Daulatram, in reply

" Friends and fellow workers,

I hope you will accept it when I say that I have been looking forward to meeting you all on this occasion. This desire is the natural outcome of the recognition of the plain fact that the industries dependent on sugarcane are of great importance and rank next only to those of our national industries which produce food and cloth for the people of this vast land. It has been estimated that about 20 million agriculturists and workers are dependent on the sugarcane industries among which I include the manufacture of *gur*, Khandsari and sugar. Sugarcane also supplies to the nation a very vital element of human nutrition. It is obvious, therefore, that a gathering to which have come those who know the most about this important subject, cannot be missed by anybody who represents the Central Government of the country. I have felt it my duty to reserve some time for attending your meeting in view of the inter-relation of the problems your Committee is expected to handle with our fundamental problem of food. Not only are sugar, Khandsari and *gur* important items of diet of a large section of our people but one of these products of sugarcane is even of greater value as an article of food itself, its consumption in the country being three to four times the consumption of sugar. The extension of area under sugarcane may mean encroachment on the area under foodgrains. The prices of sugarcane can also have influence on the acreage ploughed for the cultivation of cereals. *The yield of cane per acre has effect on its price and thus on the price of sugar and other products of cane. The problems of sugarcane are thus linked with the problems of food and cost of living which face the country today.* I, therefore, thought that it was proper that I should attend your meeting and associate myself with matters which were thus so important.

I have been trying for some time to study the important work which your Committee has done during the last four years. It has been preceded by equally important work done by the Sugar Committee of the Indian Council of Agricultural Research. You have made great headway in more than one direction. I know that all those associated with the production of sugarcane or its products are desirous of even

greater results. Some of you are well-known enthusiasts in the cause of research and its application in the interest of rapid advance in this, as in other vital parts of our national programme.

Self-sufficiency in Sugar

I am therefore anxious to share with you my hopes and fears with regard to this important industry of our country. It may be of value in helping us to shape our course of action if I take a little of your time to put plainly once again the main features of the situation though they are matters of common knowledge. Until 18 years ago the people of India were paying round about 16 crores of rupees to foreign countries for their sugar, this being the average of the value of foreign sugar imported into India for the preceding 12 years. Then came a big step taken by the Government to protect the Indian sugar industry against foreign competition. Towards this protective duty for our own national industry the people of India have paid out, it has been calculated, round about 70 crores of rupees. This sacrifice has placed the sugar industry on a firm foundation and we have come to feel that we can be self-sufficient in regard to sugarcane, *gur* and sugar. Our people have helped us to reach this safe position.

Doubling of Production of Sugar and Gur needed

But self-sufficiency in the above context is a relative term. The citizen of India needs more of nutrition than he is receiving today. Of both *gur* and sugar we are consuming in India only about 26 lbs. per head per year. A citizen of Cuba consumes on an average 88 lbs. of sugar, of the United States 97 lbs., of the United Kingdom 106 lbs. and of Australia 160 lbs. Based on a consumption of at least 2 ozs. per day as part of a well-balanced diet a citizen of India would need about 46 lbs. a year. This shows that the *gur* and sugar industry needs at least to double its product if the Indian citizen is to have his due in the matter of nutritious food. This opens up a wide scope for development. One hears sometimes of surplus stocks and glut in production of sugar in India. One hears of proposals for exporting of sugar from India. These may be temporary expedients to meet a situation which may have become out of joint for the moment. Consumption within India has an integral relationship with price. On the whole the history of sugar has shown that a lower price has meant greater consumption. I have no doubt that the interests of the nation demand that sugar in the form of *gur*, Khandsari and refined sugar ought to be produced in twice the present quantity and be available to the people at a reasonably cheap price. The present high price of sugar is a danger signal. *Our prices are double the world price.* The first Tariff Board on sugar held the considered view that 15 years of protection to sugar industry in India would place it beyond fear of competition. Today even after the lapse of that time we do not seem to have reached the stage when we could challenge open competition. The increasing urbanisation of population and the adoption of modern habits of diet are going to be factors which would put cheap foreign sugar at a premium. *Java is struggling to its feet with great rapidity and before much time has passed, its production is likely to reach the level of competitive exports to India. The situation needs bold and quick action.* The State may help but the producers and manufacturers must also help themselves.

Reduction in Price of Sugarcane and Sugar Necessary

Even as it is, the danger of rising inflation which is leading to control of food and cloth would seem to call for reduction in the price of sugar pending any more fundamental measures for reducing the cost of production and so lowering the price of Indian sugar with a view to stimulate greater consumption and to meet foreign competition. It is a matter for consideration whether the price of sugarcane cannot be safely reduced to a lower level for the coming season so as to lower the cost of sugar. It is also a matter for consideration, whether there may not be a reasonable margin for a small reduction in price even of the present stocks of sugar. This would also be in line with Government's present policy. It would help to alleviate the hardship caused to the ordinary consumer and tend to increase consumption and consequently production. It may even help somewhat to maintain the export market. A high price of cane and sugar would also react unfavourably on the price of rice and wheat which it has been decided to control again.

India is at present artificially surplus in sugar. At the current prices, the consumption of the Indian Union cannot be more than 10 lakhs tons of sugar, whereas our estimates of availabilities are 2 to 2½ lakhs tons carry-over from the current year and 11 to 11½ lakhs tons production in the next season. The best way of meeting the situation would be to increase our internal consumption. This can be achieved only by reducing the sugar price. It is a wise course for the Sugar Industry to adopt. *Sixty to seventy per cent of the sugar price is accounted for by the price of sugarcane. It is, therefore, urgently necessary to reduce the cane price to a reasonable level in the coming season and to fix the price of sugar after allowing reasonable margin to the Industry for manufacturing expenses and profit.* The Government of India is now conferring with the Governments of U.P. and Bihar and will soon be discussing with the Sugar Syndicate in regard to these proposals for reducing the sugar price by stages so that the markets are not unduly disturbed and the Industry does not suffer. *Government do not intend to re-introduce rationing of sugar. The price of sugar will be regulated, as this year, on the basis of an understanding with the Indian Sugar Syndicate which acts as the marketing organisation for the United Provinces and Bihar factories.* The Syndicate's functions would be to recommend selling prices for sugar and to allot quotas for sales to the different factories for the various consuming areas. *It is to be hoped that the voluntary arrangements made by the Sugar Syndicate for distribution of sugar at prices agreed upon will prove to be satisfactory and no need will arise for any further intervention by Government.*

Sugar Advisory Council, 1948

It is also Government's intention to constitute immediately a duly representative Sugar Advisory Council on the lines of a similar body which existed when sugar was statutorily controlled. The Council will consist of representatives of Industry, growers and consumers.

Increased yield of Cane per acre Vital

The avoidance of the danger of foreign competition needs however more radical steps. The patient research work sponsored by the old Sugar Committee and the present Central Sugarcane Committee has

led to valuable results. As I have just said, sugarcane accounts for 60 to 70 per cent of the cost of its products. The products cannot be cheapened to stand up against competition unless sugarcane is cheaper. Sugarcane cannot be cheaper unless we produce more of it. This need not be done by an increase in the area of cultivation. It would conflict with the extension of area under food crops which the country may need. *The real remedy lies in increasing the yield of cane per acre. Your strenuous endeavours in the field of research have helped the country in the course of the last 16 years to increase the recovery of sugar from cane from 9.07 per cent to 10.31 per cent. The progress has been steady during the last 6 to 7 years, but it must be admitted that the progress has been slow. In this sphere of technical efficiency we are yet behind not only our principal competitor, Java, but also behind Formosa, Queensland, Hawaii, Natal, Mauritius and Cuba.*

Yield in India very Low

But as you all know there is a limit to the percentage of recovery of sugar from cane nor is an increase in this percentage the real basis for reducing the cost of production. The wiser policy is to reduce the cost of the raw material which predominates so largely in the eventual cost of its products. This is possible primarily by an increase in the yield of sugarcane per acre. In our country during the last 16 years the yield of sugarcane per acre has been oscillating roughly between 14 to 15½ tons per acre. But this average includes the high figures of 30 to 50 tons per acre which different parts of the tropical region of our country can produce in contrast to the sub-tropical provinces of U.P. and Bihar. We realise how much leeway has yet to be made up in the basic operation on which depend the largeness of quantity and cheapness of cost of production of sugar and other products of cane. *When we contrast this average yield of 15 tons of cane per acre in India with 30 tons in Egypt, 20 tons in Mauritius, 22 tons in South Africa, 27 tons in Philippines, 28 tons in Japan and Formosa, 41 tons in Peru, 56 tons in Java and 62 tons in Hawaii, we realise the extent of the ground we have to cover.* I have no doubt that India can also produce enough sugar and sugarcane products for her full nutritional needs despite her growing population. There are parts of our country where a yield above even 100 tons per acre has been secured. We need not therefore increase further acreage under sugarcane. *Our plans must largely converge on all those measures which lead to more intensive cultivation of the existing acreage. This is a solution not only in regard to sugarcane but also in regard to our foodgrains.* With more intensive cultivation of the land and producing greater yield from the same area, our country can feed a much larger population than at present. This has been the experience of other countries and it has to be our experience also.

Intensification of Research urged

It seems to me that the warnings we are receiving of the need for more and cheaper sugar should compel us to put forth more intensive effort and to concentrate on first things first. The Central Sugarcane Committee should switch on its activities more and more from the Laboratory to the field and set up some quick moving machinery to bring to the farm of the cultivator the result of patient research conducted in the various centres. The application of our research in Coimbatore and acclimatisation of the cane varieties which we cultured

there, has enabled other countries to send back our Bangalore cane to us in the form of cheaper sugar and beat our own product in our own market. This has a lesson for us. *We dare not take things easy. We cannot satisfy the people's needs or their opinion, if we move at our present pace. We must develop a sense of urgency and a sense of priority and, as I have just said, take up first things first. The agricultural side of the Committee's functions must, I feel, now definitely predominate. I have not the shadow of a doubt that our first and main task lies in the increase of yield of cane per acre both in the more favourably situated areas of Bombay, Deccan and South India as also in U.P. and Bihar. I would wish you to consider whether you may not set up a very small Development Committee which would tour the sugarcane areas at the appropriate time and by continuous contact at close quarters with the problems of increased production from the same area help the growers of sugarcane to reap due benefit from our research work.* The war on the food front is no less a war than the one we fight with tanks and planes. *The feverish activity which one associates with war measures should be the feature of every programme of production in the country today. I hope it will be possible for your Committee to take some effective steps which may, in the course of the next few years, speed up substantially the yield of cane from every acre now under the plough in our country. I see difficulties ahead for the grower and the manufacturer and also possibly the consumer unless our progress in this direction can be materially quickened.*

Importance of Gur and Khandsari in Agricultural Economy

There is one other problem which in my view also needs urgent attention. It relates to the position of Khandsari and *gur* industry in the rural economy of the country. It has been estimated that more than half the cane produced is used for the manufacture of *gur* and for every 6½ lbs. of sugar consumed in the country 20 lbs. of *gur* are used by our people as part of their food. I feel that it is desirable that a special Sub-Committee should be set up which should concentrate on the problems of *gur* industry as also the Khandsari industry. Adequate finance should be placed at its disposal for the performance of its functions. The Central Sugarcane Committee had been charged with wide functions including specific agricultural, technological and economical research on *gur* as also other products of cane besides sugar. You may devise such measures as may be considered best for the fuller discharge of this particular function than has probably been possible so far. It is with a view to help in this matter that I have suggested an increase in the representation on your Committee of those connected with the *gur* and Khandsari industry. I hope the suggestion will appeal to you. This is not the occasion for a comparative value of the various products of sugarcane from the purely nutritional point of view but as a very large number of our agriculturists and rural people are concerned in the development of these products of cane, it is imperative that we give to them the place which is their due in the programme of the Central Committee.

May I venture, before I conclude, to submit for your consideration a suggestion for the re-organisation of your work which, in my opinion, will be necessitated if you decide on a programme for achieving speedy results in regard to your major problems. I find that the General Body of your Committee has to consider both important matters of policies

and comparatively minor specific schemes and proposals which relate to the details of your programme of work. I think two days' discussion every 6 months only on the main problems, policies and programmes against the background of the changing situation in this country and the outside world, would be of great value in shaping the national line of action. The Government, the Industry and the agriculturists concerned would benefit by the guidance which these discussions on the broader aspects of the question would give them. The exchange of views on the bigger and more fundamental issues by those who have given so many years of their lives to the study of the problems relating to one of our vital food producing industries would greatly contribute to sound conclusions being reached by Government as well as by all others. It may be better if an Executive Committee of a dozen or so of your members is constituted which could deal with the comparatively minor items which also I find have been coming up before the General Body of the Central Committee. This Executive Committee could meet very frequently and could function also as the driving power pushing forward the progress of the detailed programme of action which may come to be formulated from time to time. I do not know how these suggestions would appeal to you. You may consider them and accept or modify them or unhesitatingly reject them if you think they would not suit the needs of the time.

Reduction of Research Grant by Government

I fully realise that no effective organisation and no vital programme can make any progress without adequate funds. **The President of your Committee has just referred to the cutting down of the annual grant by Government from 4 annas to 1 anna per cwt. of white sugar produced in India.*[*]***

Government's efforts for economy are to be guided by discrimination between schemes which relate to speedy progress in the production of essential commodities needed by the people and schemes which do not satisfy an important immediate need of the country. It will be my endeavour to help the Committee to secure adequate finances for its developmental activities and ensure a measure of financial stability on which foundation, the Committee may be able to build up a plan for national self-sufficiency in sugar and allied foodstuffs. As I have indicated already it will be a mistake to underestimate the place of this industry in relation to the national economy or the national diet of our people.

It is not my intention to deal with any particular items of your agenda. You will freely discuss each of them and come to whatever conclusion you think is wise and proper in the interest of not any one section but of the people as a whole. You are in a sense representatives of different interests, some of you are also representatives of different parts of the country with their own point of view. But it is my hope that in dealing with the major problems I have ventured to place before you, you will feel as a single united body of patriotic Indians determined to help your people to secure adequate and cheap nutrition and to place India in a position speedily to hold its own even against heavy

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* For comments on the reduction of the grant, and its effects on Indian Sugarcane cultivation and the industry, please see Author's Preface and later pages in Part II of the *Annual*.

odds. I wish every success to your Committee's work and it is my pleasure to inaugurate its deliberations today. May I now request you to proceed to the discussion of the heavy agenda which is before you!"

A WORLD SUGAR PICTURE AND INDIA'S POSITION THEREIN

- In September 1948, the Government of India have fixed the target for sugar production within the next five years at 16 lacs tons, 40 additional units have been sanctioned, 30 being in the Union of India and 10 being in the Indian States. Government do not contemplate, save in exceptional circumstances, that any additions will be made to the present crushing capacity by the existing units.
- The number of working sugar mills in the territory of the Dominion of India was 135, and in Pakistan 9, capable of producing about 22,000 tons of sugar. The area under cane in the Union of India is approximately 35,00,000 acres, and in Pakistan, 6,00,000 acres.
- Judging from the reports about the economic and political conditions in Java, it will not be able to produce more than 2 lacs tons of sugar before 1950.
- The Government of India decided to decontrol sugar and *gur*, from 8th December 1947, and the Sugar and Gur Control Orders were repealed from that date.
- After an almost complete cessation of imports for several years, India imported 29,600 tons of sugar from Cuba in 1947, as a result of the allocation made by the International Emergency Food Council, to reduce the gap between supply and demand in India. Of this, 14,000 tons were sent to Pakistan.
- The area under cane in India, namely, 3½ million acres, comes to about 2% of the cultivated area in India, and is approximately 35% of the world's sugarcane area.
- 144 Factories produce sugar by the sulphitation process and 17 by the carbonatation process, the quality of the latter being superior, although with a slightly higher cost.
- The world's sugar production is yet smaller than its consumption.
- There has been progressive increase in the minimum price of cane in India during the last 5 years. The price of sugarcane works out to 60% of the present price of sugar (1947-48).
- The industry gives employment to 3,000 Graduates, 1,30,000 skilled and unskilled workers, and interests not less than 20 million cultivators.
- The Indian Sugar Industry represents investment of capital to the extent of about 35 crores of rupees. The total annual value of sugar and *gur* is about 212 crores of rupees (1947), and the *per capita* expenditure works out to about Rs. 6.

15th November 1948. M. P. GANDHI

THE INDIAN SUGAR INDUSTRY—(1947-48 ANNUAL)

EDITOR : M. P. GANDHI.

(A Review of the Sugar Industry in India during the 1947-48 Season and comments on the 1948-49 Season)

Introductory.

The year 1947-48 was one of strain and turmoil. A stupendous task confronted the Government of India when India took her rightful place among the free nations of the world on August 15, 1947, after 200 years of British rule. With the attainment of independence and immediately after the transfer of sovereign power to the Constituent Assembly of India, various Ministries of the new National Government at the centre were faced with a host of urgent problems. The disturbance which followed partition and the mass migration of population created an unprecedented situation. Not only had the Government of India to maintain peace in the centrally administered areas but they had to assist Provincial Governments in their handling of the communal situation. With the world in the grip of an economic malaise, the inevitable aftermath of war, India was called upon, soon after the attainment of freedom, to deal with colossal problems which had and still have a weighty bearing on her financial structure and resources, and any impartial historian who looks back upon the events that have passed during these fateful months will admit that our Government and our national leaders have not done badly. It is only through severe trial that a nation's fibre is strengthened.

Mahatma Gandhi's passing away on 30th January 1948

The greatest of our misfortunes, however, was the assassination of Mahatma Gandhi, the Father of the Nation, at the hands of a Hindu assassin on the 30th January 1948. The country was plunged in the darkest gloom and it appeared for once as if the very existence of the new popular government was in dire peril. This period of 12 months was a testing time for India and for her leaders and people. As stated above, there have been problems of appalling magnitude, tragedy, sorrow and disappointment. In spite of all this, however, it must be said to the credit of India that due to the magnificent leadership of our great Prime Minister, Pandit Jawaharlal Nehru, and the indefatigable Deputy Prime Minister, Sardar Vallabhbai Patel, coupled with the unceasing toil and courage of our people, the country rose to every challenge and might feel justly proud of the remarkable manner in which it has weathered the storms and overcome many of the dangers that faced us. There has been in India, as elsewhere in the world, a conflict of the spirit between various forces, but as the Hon'ble Pandit Jawaharlal Nehru, Prime Minister, observed in his message on the

occasion of the Indian Independence Day Celebrations in London on August 15th, 1948, "It was that conflict which led to the supreme tragedy of the past year, the assassination of Mahatma Gandhi, and yet that very death was a triumph of the spirit and pledge that India will never allow the forces of evil, reaction and disruption to break the structure of freedom which the Father of our Nation had built so laboriously".

A Year's record of Endeavours and Achievements

On the economic front, Government can well claim to have made unremitting efforts amidst a series of crises during the first year of freedom. In the sphere of industries, particularly, Government was faced with a situation in which a collapse of production seemed imminent and this state of affairs, in itself, contrasted grimly with the expectations of the early post-war planners, and more so with the dreams of the National Government, for the latter had set out to realise the ends of political freedom in terms of economic betterment. In the face of industrial production going down rapidly, the plans, Panel Reports and the various positive ideological affirmations of the period appeared rather unreal, but positive action has slowly come to prevail and it appears that with a smoothening of the relations between capital and labour, for which valiant efforts are being made, the crisis will be weathered through and the foundations of planned prosperity on an appropriate scale will be laid before long.

Continual Rise in Prices

During the period of the last 18 months we witnessed a rising spiral of prices bringing in their train an enhancement of wages and salaries. Government have just begun to tackle the problem. A series of measures of disinflationary nature were announced in October 1948. We earnestly hope that these measures will succeed in achieving their aims and that it will be possible to usher in a period of increased production of various commodities required in the country.

Sugar relaxed from Control in 1947

Coming to the case of the sugar industry, we must state that on the 8th December 1947, the industry was freed from the control which the Government of India assumed over it in April 1942. It must be stated that there has been a progressive decline in production of various commodities and the abnormal rise in prices led to incessant demand for the lifting of controls. This demand was backed by the powerful voice of Mahatma Gandhi, but for whose insistence controls would not have been removed for a long time to come. The Hon'ble Dr. Rajendra Prasad announced in the Constituent Assembly on the 10th December 1947, the lifting of the control on sugar with effect from the 8th December 1947. As a matter of fact the lifting of the control on sugar came a little too suddenly for the industry which, however, responded quickly to it by way of greater production during the current season. But for a short period during which the prices of sugar had risen over the price fixed by the Government, namely Rs. 35-7-0 per maund, for the 1947-48 season, the sugar prices were on the whole satisfactory, and as will be

shown later, the consumer generally got a fair deal from the industry which rose to the occasion and behaved well in response to the appeal of the Government.

The following extract from the *Agricultural Review*, for May 1948, published by the Ministry of Agriculture, will bear out generally the correctness of the above statement :—

IV. COMMODITY REVIEWS—(*a*) SUGAR

"Immediately after the withdrawal of the control on price, movement and distribution of *gur* and sugar in provinces and States in December 1947, sugar prices soared high and great scarcity of sugar was felt in several centres. As compared with January 1948, however, prices during February and March showed a fall, but April saw a rise again. Crystal sugar at Kanpur, which came down from Rs. 37 per maund on 31st January to Rs. 35|8|- on 28th February 1948 and further down to Rs. 35 in March 1948, rose back to Rs. 37 on 24th April 1948. In Bombay crystal sugar rose to Rs. 39|7 per maund in the last week of April from Rs. 37|7 at the close of last month. According to trade reports, the upward trend at Kanpur was mainly due to enquiries from out-stations and in Bombay to *paucity of arrivals*."

Survey of the Industry in 1947-48

We will now survey the condition of the industry in the year 1947-48.

During the 1947-48 season, production of factory sugar for the Indian Dominion increased to 10,74,800 tons as compared with 9,01,000 tons during 1946-47. There were various reasons for the increase in production during the 1947-48 season. The principal reason was the fixation of the cane price in U.P. and Bihar at a considerably higher level, namely Rs. 2 per maund in 1947-48, as compared with Re. 1-4-0 per maund during the 1946-47 season, which increased the availability of cane to the sugar factories. The *gur* price remained at a low level and this had also prevented the diversion to the factories of larger quantities of cane, which would otherwise have been utilised for the manufacture of *gur*. Apart from this, as a result of decontrol and the fixation of sugar prices at a level which ensured greater profitability to the sugar factories as compared with the previous season, there was an incentive for increased production on the part of all factory owners, and this was also responsible to a large extent for increased output of sugar. The duration of the cane crushing season was also larger in 1947-48, as compared with the previous year, not only in U.P. and Bihar, but also in all-India. The cane crushing operations commenced earlier and the factories continued to work right till the end of May 1948, in various areas. The average number of actual working days of factories in U.P., Bihar and the rest of India in 1947-48 were 114, 76 and 127 respectively, as compared with 97, 70 and 101 during the 1946-47 season. The average number of working days for all-India in 1947-48 was 110 as compared with 93 for the 1946-47 season. While the recovery percentage in U.P. fell from 10.03 to 9.80, in Bihar it rose from 10.08 to 10.49. The recovery in Bombay also rose from 10.3 per cent to 11.05 per cent in 1947-48, and in Madras from 8.07 per cent to 8.65 per cent in 1947-48. The average for all-India, however, was slightly lower in

1947-48, it being 9.85 per cent as compared with 9.88 per cent in 1946-47.

It might be stated here that the production of sugar in 1946-47 was actually of the order of 9,01,000 tons, the two main reasons being the short working season especially in Bihar where the average duration was only 70 days, and the increase in the number of non-working factories. The short season can correctly be attributed to the shortage in the supply of cane. The low production in Bihar was also responsible for the lowering of the all-India totals and of all-India averages. In Bihar the shortage of cane was so serious in 1946-47 that factories in South Bihar started working only in January 1947, and had to close down by the first week of March 1947. This caused a drop in production by 28,400 tons in 1946-47 as compared with the previous season.

Production goes up in 1947-48

As explained above, the conditions in 1947-48 were entirely different, and with a liberal increase in the price of sugarcane from Re. 1-4-0 per maund to Rs. 2 per maund, a large quantity of cane was easily available for the factories and the total production of sugar reached a level which is considerably higher than the production of the three previous seasons. It might be of interest to note that although increase of production was one of the objects of the institution of control over the sugar industry, production of sugar since 1942, when control was imposed over the industry, has been on the downgrade during the period of operation of the control, and it was only in 1947-48 that we witnessed an increase of production to the extent of 1,73,700 tons, as compared with the previous season.*

Prospects of Production in 1948-49

It is by no means an easy task to make a prophecy regarding production of sugar in the year 1948-49, because of the uncertainty of some factors at the present time (15th October 1948), e.g. price of cane and price of sugar, which are yet to be fixed for the ensuing season.

It is necessary to indicate here that as a result of the decontrol of sugar with effect from the 8th December 1947, the prices of sugar for the season 1947-48 have not been fixed by the Government of India as was the practice in the past 5 years under the Sugar Control Order. But the prices of sugar were fixed by the Indian Sugar Syndicate acting as the mouthpiece of the Indian sugar industry, in consultation with the Governments of U.P. and Bihar and the Government of India. The price of Rs. 35-7-0 per maund for D24 Quality, thus fixed for the season 1947-48 had the approval and blessing of the Government of India. It is also necessary to explain that the fixation of the price of sugar at the high level of Rs. 35-7-0 per maund was due *inter alia* to the fixation of Rs. 2 per maund for cane for the season 1947-48, by the Provincial Governments of U.P. and Bihar.

We expect the factory production in 1948-49 to be about 10 lakhs tons, as the cane crop has suffered slightly.

* *Vide* Final Note on production of sugar, in the *Indian Trade Journal* of 21-10-1948.

How Sugar prices are arrived at

In a table given in the earlier section of the *Annual* entitled "Sugar Industry at a Glance", we have shown the components which have led to the fixation of the price of sugar at that level. A perusal of this table would be very interesting and very informative, and will give a good idea as to the minuteness with which the question of fixation of sugar prices is gone into by the Government and the prices fixed at a level which would be fair to all interests concerned.

Anti-Inflationary Measures in 1948

The highlight of September 1948, was the announcement by the Government of India of a series of measures to check inflation. In the field of industrial production, states the press communique on the subject, Government has come to the conclusion that, in the present circumstances, some special steps should be taken to stimulate production. It has, therefore, been decided to give certain concessions to industrialists. Firstly, the present rules regulating allowances of depreciation on plants and machinery for income-tax purposes will be liberalised. Secondly, new industrial undertakings will be exempted from income-tax for a specified period. Thirdly, raw materials, plants and machinery imported into the country for industrial purposes will be granted a relief in respect of customs duty.

Limitation of Dividends

The most important announcement related to the question of the limitation of dividends. It has been decided that, for public companies, the amount distributed as dividend should not exceed the average of the two years ending with March 31, 1948, or 6 per cent on paid up capital, whichever is higher.

Other important measures announced were: regulating the grant of advances by banks so as to prevent speculation in commodities; and measures by legislation and otherwise to ensure that uniform principles will be adopted all over the country in the reference of industrial disputes to adjudication.

Reduction of sugar and sugarcane prices outlined in 1948

It is necessary to point out here that in view of the general desire of the Government of India to bring down the price level in the country, given expression to in September 1948, it has been felt that the price of sugarcane should also be brought down suitably with other commodities and the question will, therefore, be examined carefully by the Governments of U.P. and Bihar, as also by the Sugar Advisory Council, the constitution of which was advised by the Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, in the course of his address at the tenth meeting of the Indian Central Sugarcane Committee held at Delhi on the 9th October 1948. The Indian Sugar Syndicate, which is the principal body concerned in the fixation of sugar prices, is at present considering the question and prices of cane and sugar for the 1948-49 season will be settled after the Government of India have conferred with the Governments of U.P. and Bihar in

regard to this matter within the next few weeks. The danger of rising inflation which has led to control of foodgrains and cotton textiles (the latter from 30th July 1948) would seem to call according to the Hon'ble Minister for Food and Agriculture for a reduction in the price of sugar, and it is a matter for consideration whether the price of sugarcane cannot be safely reduced to a lower level for the coming season so as to lower the cost of sugar. It is also a matter for consideration, he observed, whether there may not be a reasonable margin for a small reduction in price even of the present stocks of sugar. This would also be in line with the Government's present policy and would help to alleviate the hardship caused to the consumers and tend to increase consumption and consequently production. The Hon'ble Minister also maintained that the high prices of cane and sugar would also react unfavourably on the prices of rice and wheat, which it has been decided to control again.

In view of the expression of such a view, it appears to us that the cane price for the season 1948-49 may be fixed at a level of Re. 1-8-0 per maund instead of Rs. 2 per maund in 1947-48, and the price of sugar may be fixed at about Rs. 29 or Rs. 30 per maund instead of Rs. 35-7-0 per maund in 1947-48.

The amount of the cess on cane should also be reduced from Re. 0-3-0 per maund.

Rationing of Sugar in 1944-47

It is necessary to point out that as a result of the fall in production of sugar during four consecutive seasons, rationing of sugar was introduced in the principal towns and cities in India during the previous years, and the quantum of ration was also altered from time to time in keeping with the production of sugar and the estimated pre-war demand of various areas.

Decision not to introduce Control and Rationing for Sugar in 1948

Immediately after the announcement of the policy of the Government to re-impose control over food and cloth in September 1948, the question was considered as to whether control should not be re-imposed on the sugar industry also. The Government of India, however, came to the view that as the total production of sugar is far in excess of the present demand for sugar in the country and as no difficulties of a serious nature seem to have been experienced in regard to sale of sugar in requisite quantities at the level of prices fixed by the industry in consultation with the Government, there is no point or purpose in re-introducing control over sugar for the time being. The control over cotton textiles became necessary because of the enormous rise in prices which followed decontrol of cotton textiles in January 1948, and the extreme hardship caused to the consumers which the Government could not view with equanimity for a long time. The experience in regard to sugar has, however, been strikingly different and except for a temporary period of a slight rise in price of sugar due, principally to transport difficulties (and low stocks) which are being slowly overcome, there has been no reason for assuming control at least at the present time. Besides, the prospects of production of sugar for the subsequent seasons appear to be satisfactory, and there is no reason to apprehend shortage of production of sugar in relation to the demands of the country. Apart

from this, the Government of India are not too keen to impose controls on commodities if they can avoid doing so, as their hands are too full with other things. They have, therefore, decided at present not to impose control on sugar (and *gur*) and not to re-introduce rationing of sugar. This latter announcement was made by the Hon'ble Minister for Food and Agriculture, in the course of his address at the Tenth meeting of the Indian Central Sugarcane Committee held at New Delhi on the 9th October 1948. It was stated, however, that the price of sugar will be regulated as from this year on the basis of an understanding with the Indian Sugar Syndicate, which acts as the marketing organisation for the U.P. and Bihar factories.

Misconception re : High Profits to Factories in 1948

Having dealt with the general question of the production of sugar during 1947-48 and the prospects of production of sugar during 1948-49 season, the announcement of the policy of Government not to re-impose control over sugar and not to re-introduce rationing of sugar, we will now turn to a review of the prices of sugar and of cane during the 1947-48 season, particularly as some criticisms have appeared in the press purporting to show that the prices of sugar are unconscionably high and that the interests of the consumer are adversely affected thereby. We wish to clear some of the misapprehensions on this account and to show that, generally speaking, the industry has acquitted itself creditably by taking suitable steps for supplying sugar at reasonable prices throughout the season, and that no attempt has been made by it for profiteering, and for this the Indian Sugar Syndicate deserves credit.

Immediately after sugar was decontrolled on the 8th December 1947, there was a popular apprehension that there might be a flair-up in prices of sugar. It was also inevitable to a certain extent that until the stocks of sugar lying with the factories, which were frozen by the Central Government on the 9th December 1947, came out, there would be a shortage of sugar in various parts of the country, and it would be impossible to control prices reaching higher levels for a short period and to relieve the distress of the consumer. The Indian Sugar Syndicate immediately contacted the Provincial Governments of U.P. and Bihar and arranged for immediate distribution of a bulk of the quantity of sugar lying with the members, in the different markets. The difficulties of transport of sugar, due partly to the continuance of Government control over transport, did prove a handicap in the free flow of sugar all over the country. But this situation was quickly remedied and with the timely action of the Indian Sugar Syndicate in the north, and of the South Indian Sugar Mills' Association in the south, in flooding markets with sugar, the prices soon settled down round about the level fixed by the Syndicate in consultation with the Government.

Misapprehensions regarding High Sugar Prices following Decontrol

There was a certain amount of confusion in regard to the fixation of higher prices of sugar for the season 1947-48, along with the announcement regarding decontrol of sugar on the 8th December 1947. There were statements from responsible sources which alleged that enormous profits would accrue to the factories as a result of the increase in the

price of sugar from the level of Rs. 20-14-0 per maund to Rs. 35-7-0 per maund, that the consumers would have to pay about Rs. 22 crores to the factories alone, and that on the last season's production, sugar mills would make additional profit of over Rs. 3 crores.

Government takes a Large Slice from Increased Prices on Stocks

It is necessary to explain here the misapprehensions underlying such statements. Firstly, it must be explained that although there was a rise in the ex-factory price of sugar from Rs. 20-14-0 to Rs. 35-7-0 per maund, immediately after decontrol, the rise was *not* as a result of decontrol on sugar, but was due to the simultaneous increase in the price of sugarcane announced by the Provinces of U.P. and Bihar in December 1947, from Re. 1-4-0 to Rs. 2 per maund, and increases in wages of labour, etc. on the basis of which the Government of India allowed the industry to increase the price of sugar from the erstwhile level of Rs. 20-14-0 to Rs. 35-7-0 per maund. It can thus be said with emphasis that there was no rise in the price of sugar *as a consequence of the policy* of decontrol, for the rise to Rs. 35-7-0 per maund, roughly equivalent to Re. 0-7-6 per lb., was sanctioned by the Government themselves. The popular misapprehension, therefore, of there being a great rise in the price of sugar, like other commodities, as a result of decontrol, has been completely belied, and what is more, it was found that at many places, prices had gone down below the level allowed by the Government, namely Rs. 35-7-0 per maund, as a result of the sales which some factories made at slightly lower rates due to financial stringency and internal competition. Along with sugar there was also a considerable fall in the price of *gur* to the benefit of the consumer. Secondly, it was overlooked by those who alleged that the factories would make a profit of Rs. 3 crores on last season's production, that simultaneously with the announcement of decontrol Government had frozen the stocks of sugar lying with the factories, under the Sugar and Sugar Products Control Order, 1947. There were about 89,000 tons of last season's sugar with the factories, which were priced round about Rs. 21 per maund. When the price for the new season's sugar was fixed at Rs. 35-7-0 per maund, it was naturally a problem as to how the old stock of sugar was to be disposed of, as there could not be two different rates for sugar. Government, therefore, had to permit its sale at the new rates. What the Government took care, however, to do was to ensure that this extra price of about Rs. 14 per maund did not go to the factories. They, therefore, decided that the factories should refund to the Government of India a sum of Rs. *9-3-0 per maund*, and allowed the factories to keep the rest to compensate them for extra bonus to labour, sales tax in U.P., higher prices of stores, fuel, etc. and for allowing a fair profit which was denied during the previous two seasons to a large number of factories which had to work at a loss. The extra amount which was allowed to be kept by the factories varied from province to province, and we give below a table supplied to us by the Government of India, Ministry of Food and Agriculture, on the 6th August 1948, showing the amounts paid by the factories to the Government and retained by them on the frozen stocks of 89,000 tons of sugar from the 1946-47 season's production.

A glance at this table, supplied by official sources, will clear the industry against any charge of profiteering on old stocks.

Table showing the amounts paid by the Sugar Factories to the Government of India and retained by them on the Frozen Stocks of Sugar in 1947.

Name of Province.	Stocks held by Factories on 8-12-47 (Tons)	Rate at which paid to Govt. of India. per maund	Amount paid Rs.	Rate at which kept by Factories. per maund	Amount kept by factories.
	Rs.	Rs. a. p.	Rs.	Rs. a. p.	Rs.
U.P.	72,583,80	9 3 0	1,81,53,499	5 0 0	9,877,665
Bihar	11,661,51	do	29,16,587	do	1,587,130
E. Punjab	1,811,61	do	4,53,069	do	296,560
W. Bengal	631,21	11 15 0	2,05,121	2 4 0	38,655
Orissa	285,28	14 3 0	1,10,179	...	...
Bombay	467,52	do	1,80,563	...	...
Madras	2,234,46	do	8,62,982	...	...
Total	89,675,39		2,28,82,000*		

Net Retention by Factories not large

The total amount kept by the factories amounted to Rs. 1,18,00,000. It will be seen that the factories had to pay tax out of this amount, and on the assumption of payment of tax at 8 annas in the rupee, Rs. 2-8-0 out of Rs. 5 per maund kept by the factories would go that way. Bonus to labour sanctioned by Governments of U.P. and Bihar at the rate of Re. 1 per maund on the last season's stock as on date of decontrol would take Re. 1, and sales tax would absorb 9 annas per maund of sugar and ultimately the industry in U.P. and Bihar would thus get about Re. 1-8-0 per maund extra on 84,000 tons of its stocks on the 8th December 1947. The above statement also shows that the Government collected a higher amount from West Bengal and Orissa.

It is hardly necessary for our purpose here to enter into a detailed discussion of this matter, firstly because the extra profit was allowed by the Government to be kept by the factories in consideration of the increased expenditure on various accounts and the necessity of giving a fair deal to the sugar factories which had been denied even reasonable profits during the past 2-3 seasons owing to the niggardly manner in which costs of production were calculated while fixing prices of sugar in the previous seasons.†

* Extract from the Hon'ble the Finance Minister's speech on introducing the budget proposals for 1948-49:

"The estimated revenue includes Rs. 2.25 crores on account of Government's share in the increased prices of sugar, stocks of which were frozen by the Government when sugar was decontrolled in December 1947. This credit of Rs. 2.25 crores will, however, be offset by a corresponding provision in the expenditure estimates as *the intention is to fund these receipts for the benefit of the industry and the sugar producing provinces.*"

† *Vide* issue of the Indian Merchants' Chamber Journal for March 1948 containing an article by Mr. M. P. Gandhi on "The Effect of Decontrol of Sugar".

Prices of Cane in 1947-48

As has been stated above, the cane prices for the year 1947-48 were fixed at Rs. 2 per maund by the Governments of U.P. and Bihar. This price was arrived at after very careful consideration by the Governments of U.P. and Bihar out of regard for the interests of the cane cultivators, who were not allowed higher minimum cane prices in the previous seasons to ensure their obtaining a return comparable to the return from other produce like wheat, rice, etc. Apart from this it was apprehended that unless the prices of cane were fixed at a more remunerative level, sugarcane cultivation would be greatly discouraged and this would lead to a decline in the production of sugar and the ryots in U.P. and Bihar would be very adversely affected and the entire agricultural economy of these provinces would be injured. As a matter of fact, even with the price fixed at the very high level of Rs. 2 per maund of cane, it was felt that it would not be remunerative for the cane-grower in Bihar, and representatives of cane-growers were asking for a higher price still. But it was decided that any higher price would be thoroughly unjustifiable and would affect adversely the consumers and would be ultimately against the interests of both the growers and the industry too.

As a result of the fixation of high prices in 1947-48, the area under cane has gone up from 32,59,000 acres to 35,83,000 acres in 1947-48, a rise of about 10 per cent. A table in the " Sugar Industry at a Glance " gives the acreage under cane for the various Provinces and States.

Minimum Cane Prices in Madras, Mysore and Bengal

In the previous portion of the *Annual* entitled " Sugar Industry at a Glance ", we have given the cane prices fixed by the Governments of Madras, Mysore and Bengal. It will be noticed that the price of cane fixed by the Madras Government has been on a sliding scale varying with the recovery of sugar from cane and the price realised for sugar by the factories.

Cane Cess in U.P. and Bihar in 1947-48

In order to augment the revenues of the Provincial Governments of U.P. and Bihar, these Governments increased the cane cess from one anna per maund as in 1946-47, to 3 annas per maund during the entire season. The Cane Commissioner, U.P., was also asked by the Government of U.P. that the sugar factories situated outside the U.P. which draw cane from the U.P. may also be asked to pay the cess at the rate of 3 annas per maund.

Full allowance was made for the payment of the cess by the factories while fixing the price of sugar at Rs. 35-7-0 per maund for the 1947-48 season.

Relaxation of Levy of Cess in 1947-48 due to Financial Difficulties to Factories, in U.P. and Bihar

On the 12th March 1948, the Cane Commissioner, U.P. issued a circular to all the sugar factories in U.P. announcing some relaxation in regard to payment of the cess and the commission to Co-operative Societies. A copy of this circular is given below :

"In order to meet the unprecedented situation that has arisen because of the high price of sugarcane and accumulation of large stocks of sugar due to transport difficulties and in order to ensure that the factories do not leave any available cane uncrushed and thus to safeguard the interests of the cane growers the Provincial Government have decided that (*a*) the recovery of cess and Co-operative Societies' commission due on cane supplied to sugar factories on and after February 15, 1948, may be postponed till June 30, 1948, and (*b*) a maximum of Re. 1 per maund from the price of Rs. 2 per maund payable for cane may be withheld at present by sugar factories and paid to canegrowers or Canegrowers' Co-operative Societies, as the case may be, by June 30, 1948, at the latest. These concessions have been allowed on the distinct understanding that sugar factories which take advantage of the concessions shall accept cane in excess of the bounded quantity offered by the growers at least till the end of April 1948. It is hoped that all concerned will show an accommodating spirit in this matter and the factories will especially help the growers by not closing their factories until they have cleared all available cane within their reserved areas including outstations. The Canegrowers' Co-operative Societies should also help in the arrangements by so arranging supplies that the factories continue to crush economically as long as possible and special efforts should be made to clear the cane of the small growers whose number must be numerous. Cane Development Officers will immediately scrutinise the figures of cane still to be crushed and contact the factories with a view to arrange the future programme of crushing and other arrangements and report their figures and the arrangements made, to me within 10 days."

No Cane Cess announced in Bombay in 1947-48 till October

It might be pertinent to observe here that although the U.P. and Bihar Governments levied a cess of 3 annas per maund of cane, in 1947-48, no such cess was levied by the Government of Bombay from the factories in the province. Mr. M. P. Gandhi, the Editor of this *Annual*, invited the attention of the Government of Bombay to the possibility of imposition of a cess on sugarcane calculated to yield Rs. 33,00,000 per year, but the Government of Bombay found themselves unable to impose any cess on agricultural commodity under the existing rules, and the matter was therefore referred to the Government of India. For ready reference we give below a copy of the note prepared by Mr. M. P. Gandhi, Editor of this *Annual*, on the subject and forwarded to the Bombay Government in March 1948 :—

Mr. M. P. Gandhi's Note to Bombay Government re : Cess on Sugarcane, March 1948

"I wish to point out here a new source of revenue, which, I am surprised to find, the Bombay Government have not yet thought of tapping, although, as I propose to show later, they would have been fully justified in doing so and no objections could have been raised from any organisation or any section of the community. The adoption of this proposal will not violate any of the accepted cannons of taxation, will be fair and equitable, and provide a source of prolific

revenue to enable Government to undertake nation-building activities on a larger scale, or for quickening their pace, in the field of agriculture or education for the uplift of the poorer classes.

Cess on Sugarcane would yield Rs. 33 lakhs to Bombay

This new source, which, in equity, can be tapped by the Bombay Government, is the levy of a cess on sugarcane consumed by the vacuum-pan sugar factories in the Bombay Province, with effect from the 1947-48 crushing season which commenced in November 1947. As is well-known, sugar was decontrolled on the 8th December 1947, and simultaneously the Government of India, in consultation with the Governments of U.P. and Bihar, the principal sugar producing provinces of India, decided to increase the price of sugar from Rs. 24-14-0 to Rs. 35-7-0 per maund. This increase of sugar price was rendered necessary for various reasons, the principal among them being the enabling of the U.P. and Bihar Governments to enhance the minimum price of sugarcane from Re. 1-4-0 to Rs. 2 per maund, as the previous price did not afford adequate and comparable return to the sugarcane cultivators and it was found necessary to ameliorate their condition by giving a fair price for their crop. Other reasons for the increase in sugar prices were the necessity of improving amenities of labour by giving them a higher minimum wages, dearness allowance, etc. the augmentation of the provincial revenues and the allowance of a fair margin of profit to the sugar factories calculated on a more liberal scale than in the past in order to compensate the factories of U.P. and Bihar which had lean time during the past 3-4 years due to the shorter working season, lower recovery, increased manufacturing charges, etc. and which prevented most of them from making fair-sized profits. When the price of sugar was fixed at Rs. 35-7-0 per maund, the U.P. and Bihar Governments calculated that out of the addition allowed by the Government of India in the price of sugar, it would be possible for them to increase the cess on cane levied at the rate of one anna per maund in the 1946-47 season, to 3 annas per maund, as there was an additional margin and this would be no hardship on the manufacturers as they were being provided with a liberal seale of profit, partly with a view to compensate them for the loss incurred by some factories, and partly with a view to serve as an incentive for increasing production of sugar in the ensuing season to meet the increased demands of sugar in the country.

I do not wish to enter here into the controversy (if there be any) in regard to the comparative cost of production and efficiency of sugar factories in Bombay as compared with the factories in U.P. and Bihar, but I believe that it will not be disputed by anyone that on the scale of sugar prices fixed by the Government of India during the past few years, based doubtless in relation to the minimum cane prices fixed from year to year in U.P. and Bihar, the factories in Bombay which grow their own cane, unlike the U.P. and Bihar factories which purchase practically 90 per cent of their cane from cultivators, had a more profitable working than the factories of U.P. and Bihar, as they have been able to build up fairly satisfactory reserves, derived fair profits and declared fair dividends on the capital employed by them.

If the U.P. and Bihar Governments can, therefore, with complacency levy a cess of 3 annas per maund of sugarcane, which works out to about Rs. 5 per ton, the Bombay Government can at least do the same, for the factories in U.P. and Bihar are also subjected to a further charge of half-anna per maund for purchasing cane through the Canegrowers' Co-operative Societies, and the Bombay Government can augment their revenues without harming any interests concerned and can thus also effect greater improvement for the benefit of agriculturists cultivating cane as well as other crops in the province, from the revenues derived from such a cess.

In the 1946-47 season, the factories in Bombay crushed 6,68,000 tons of cane and manufactured 70,000 tons of sugar. If a cess is imposed at the rate of 3 annas per maund of cane, equivalent to Rs. 5 per ton, it would bring a revenue of over Rs. 33 lakhs per year, even on the basis of the last year's production, and this would mean no insignificant addition. In terms of the present price of sugar, it would mean a reduction in profits to the Bombay factories of about Re. 1-14-0 per maund of sugar, assuming a 10 per cent recovery of sugar from cane. The sugar factories in Bombay can easily afford to part with this amount of Re. 1-14-0 per maund of sugar from the increase of price of Rs. 14-9-0 per maund effected by the Government of India during the year 1947-48, and as a matter of fact, if such a cess is not imposed, this amount would be an additional windfall for the 13 sugar factories working in the Bombay Province (including the States), to which indeed they can lay no claim and for which they may not have entertained any expectation also. If a liberal increase is allowed in the price of sugar on the basis of the price of sugarcane in other parts of India and if the factories, in relation to whose working these prices were fixed, could afford to pay this cess, there is no reason whatever why the sugar factories in Bombay, who are at least similarly situated should not do the same.

I am not aware as to why the Bombay Government have not imposed the cess already and taken over this extra money from the Bombay factories who have been liberally compensated for any increase in the cost of growing cane that may have occurred, by the fixation of sugar prices on the basis of an increase of 12 annas per maund in the price of sugarcane, in the 1947-48 season. The only explanation, if any, why the Bombay Government have not imposed such a cess during the current season can be afforded by the fact that the increase in the price of sugar was only announced in December 1947, when the main lines of the budget for 1948-49 might have already been prepared, and it might not have been possible to consider this new matter in the slow moving machinery of the Government at a late stage.

It is possible for the Government to collect the cess even now, retrospectively, with effect from the commencement of the 1947-48 season, from the factories, and it would yield a sum of well over Rs. 33 lakhs, as production of sugar this year is likely to be larger than in the 1946-47 season. The Government have a legitimate and unassailable claim for levy of this cess, with retrospective effect, it is easy to collect from the factories as there is a complete and up-to-date record of cane crushed in each factory, and there are only 9 factories in the

Bombay Province to tackle at present, excluding the 4 factories in the territory of the Indian States in the Province, on which perhaps it may not be possible for the Government to levy any cess just now.

I suggest that the Bombay Government should give due consideration to this matter, and if on an examination they feel that without injuring the integrity of the industry in the Province a cess could be imposed on cane consumed in the factories, as is being done by the Governments of U.P. and Bihar, where no less than 66 lacs tons of cane are consumed—a quantity ten times as large as the quantity consumed in Bombay—and which is calculated to yield a revenue of over Rs. 3.30 crores to those Provinces per year, they should do so, taking care to earmark this amount for expenditure on schemes which would effect an improvement in agriculture in the rural areas of the Province, by providing better seeds, better irrigation facilities, suitable manure, etc. in order to ensure the amelioration of the condition of the cultivators of the Province."

Bombay Sugarcane Cess Act, introduced in October 1948

Since the above was written, we are glad to report that the Government of Bombay introduced the Bombay Sugarcane Cess Bill, 1948, on the 8th October 1948, in the Provincial Legislature, for levying a cess and establishing a fund for the purpose of development and improvement of cultivation, growth and marketing of sugarcane and other irrigated crops, and for the development of sugar industry and for the improvement and development of agriculture in general in the Province of Bombay. Under this Bill, which was passed in October 1948, the Government have taken powers to impose a cess at such rate not exceeding 6 annas per maund as may be specified by the Provincial Government on the entry of sugarcane into the local areas for consumption or use therein. The receipts from the cess will be credited to a separate fund called the Provincial Sugarcane Fund for the objects indicated above.

Under clauses 15, 16 and 17 of the Act, Government have levied a cess at the rate of 3 annas per maund in respect of sugarcane which entered the local area of a factory for consumption or use therein during the period from the 1st day of January 1948, to the 8th October 1948, that is, the day on which the notification under section 5 was issued. Under the Act a licence will have to be taken by every factory for consumption or use of sugarcane therein.

The Act will be applied retrospectively, and a cess will be collected at the rate of Re. 0-3-0 per Bengal maund on the cane consumed in factories, from 1st January 1948.

The cane consumed in November and December 1947 will not be subjected to this cess.

It is a matter of pleasure to us to report that the suggestion for levy of a cess on cane made by Mr. M. P. Gandhi, Editor of this *Annual*, was adopted by the Bombay Government in October 1948, and a cess imposed on cane consumed in factories in Bombay, with retrospective effect, from 1st January 1948, at the rate of 3 annas per maund of cane, as in the U.P. and Bihar.

A striking instance of Government's Red Tapism is furnished by the *delay in the imposition of the cess.*

Transport Position of Cane during the 1947-48 season in U.P.

Due to its high price a large quantity of cane which used to go to Khandsari and into Kolhus for the manufacture of Khandsari sugar and *gur* was thrown over to vacuum pan factories creating a problem for these factories and the Department for the disposal of this surplus cane within the normal crushing capacities of the factories and the working season.

To meet the unprecedented situation and to maximise the production of sugar, factories were allowed certain concessions in the mode of payment of cess as well as the price of sugarcane.

Except in a few cases involving difficulties in operation by the railways the standing instructions regarding transport of cane from railway centres lying within ten and beyond 25 miles by a factory, were relaxed in all cases. The total number of wagons allotted on the O.T. and E.I. Railways was increased to 85,600 (for the season) and 512 (per day) against 77,760 and 498 respectively of the previous year. During the peak period of the season an additional allotment of 50 wagons per day on the E.I.R. bringing the total to 562 wagons per day was also made. Similar concessions were also shown by the O.T. Railway and they increased the allotments of a few sugar factories which had exhausted their quota and got into practical difficulties to transport cane from their centres. The percentage of rail-borne cane to the total cane crushed by the sugar factories has in consequence risen to 31.8 as against 29.70 of the previous year. Factories, however, complain that due to the irregular running of Cane Pilots the offtake of cane was pulled down as they could get only a supply of 92.13 and 87.24 per cent of their indent for wagons on the E.I.R. and O.T. Railways respectively.

Factories also drew large quantities of cane from centres by road but due to the prevailing economic conditions cost of transport by bullock carts proved prohibitive in most cases. Shortage of petrol was also a contributory factor in the problem of transport by road through motor trucks. The factories could only be supplied 1.55 lakhs gallons of petrol against their demand of 3.30 lakhs gallons. The C.D.O., Meerut, has, however, managed to secure some extra petrol through the Regional Transport Authority.

The total cane crushed by sugar factories in the U.P. has been 16.66 crore maunds as against 14.27 crore maunds, which shows an increase of 16.8 per cent over the figures of the previous year (1946-47).

The situation in Bihar in regard to transport of cane also needs improvement, and due to the shortage of petrol the factories there also were handicapped in drawing supplies of cane from distant areas.

Production of Factory Sugar in Tons by Provinces in 1947-48

The table below gives provincewise the production of sugar in factories during 1946-47 and 1947-48, along with the quantity of cane crushed during the season.

Production of Factory Sugar (in Tons) by Provinces in 1946-47 and 1947-48.

Provinces (Union of India including Hyderabad).	Number of factories working in 1946–47	Cane crushed. 1946–47 (Tons.)	Sugar made. 1946–47 (Tons.)	Number of factories working in 1947–48	Cane crushed. 1947–48 (Tons.)	Sugar made. 1947–48 (Tons.)
United Provinces ...	65	5,244,200	525,800	63	6,123,000	599,900
Bihar ...	29	1,470,000	148,200	29	1,605,900	168,500
E. Punjab ...	1	78,700	8,000	1	125,300	12,300
Madras ...	11	596,400	48,700	11	685,800	59,300
Bombay ...	9	634,800	65,400	10	896,000	81,090
W. Bengal & Assam ...	2	45,800	4,400	2	52,000	4,810
Orissa ...	1	21,800	2,300	1	35,000	3,560
Indian States ...	17	1,025,400	98,300	17	1,476,100	136,500
Total	135	9,117,100	901,100	134	10,910,700	1,074,800

A perusal of the table will show that in the largest sugar producing areas, namely, U.P. and Bihar, production in 1947-48 has gone up by 74,000 tons and 21,000 tons respectively. The recovery percentage has fallen in the U.P. from 10.03 per cent in 1946-47 to 9.80 per cent in 1947-48 while in Bihar it has risen from 10.08 per cent in 1946-47 to 10.49 per cent in 1947-48. There has, however, been a fall in the general recovery for all-India from 9.88 per cent to 9.85 per cent. The recovery in Bombay has increased from 10.30 per cent to 11.05 per cent.

A table in " At a Glance " gives all these details.

It would be of interest to note that since 1938-39 the recovery has been on the up grade, the maximum having been reached in 1942-43, when it was 10.31 per cent. The recovery during 1946-47 and 1947-48 has fallen. It is reasonable to expect, however, that during the years to come, as a result of improvement in the technical efficiency, recovery will improve and be in the vicinity of a little over 10 per cent.

Comparative rise in Prices of Cane and Sugar since 1942

It would be interesting at this stage to review the rise in prices of sugar and cane since 1942.

A table in the " Sugar Industry at a Glance " shows the prices of wheat, rice, sugarcane, sugar and *gur* during the last 8 years. August 1939 has been taken to be the base year. A glance at that table will show that while the prices of wheat went up from Rs. 5 per maund in September 1942, to Rs. 17 per maund in April 1948, and of rice from Rs. 7 per maund to Rs. 18 per maund in April 1948, the price of sugar went up from Rs. 12 per maund to Rs. 37-6-0 per maund. (Retail quotation for D-28 superior quality.) This compares with the price of Rs. 21-6-6 per maund of sugar in September 1947. Similarly, the price

of cane has gone up from 8 annas per maund in September 1942, to Rs. 2 per maund in January 1948, which is exactly 400 per cent of the price of sugarcane. On the same basis the price of sugar has gone up by 300 per cent.

Cane Prices constitute 60 per cent of the Price of Sugar

In this connection it is necessary to point out that cane and sugar prices have been controlled by the authorities right from the middle of 1942, and distribution of sugar was canalised through Government agencies till December 1947, when sugar was decontrolled. Besides controlled rates of sugar were arrived at after a very detailed investigation of all the items entering into the cost of manufacture and were fixed by the Governments of U.P. and Bihar in consultation with the Government of India. The rise in the price of cane was not very large till the 1946-47 season, but in 1947-48 the price was suddenly increased from Re. 1-4-0 per maund to Rs. 2 per maund. Consequently the price of sugar was also increased from its previous level of Rs. 20-14-0 per maund, which was the price fixed for the 1946-47 season, to Rs. 35-7-0 per maund in December 1947. It will be seen that the rise in the price of both cane and sugar has been extraordinarily great and there is no doubt that as a consequence of such high prices the total consumption of sugar in the country would necessarily go down considerably, as sugar will be placed out of reach of a large number of consumers to whom it would become in the main an ariticle of luxury. This has been more so because the price of *gur* has not gone up to the same extent, and indeed is a little lower than the price last year, the present price being about Rs. 12-12-0 per maund. It will also be of interest to note that the cane price which constituted 57 per cent of the price of sugar in 1943, worked out to 70 per cent of the price of sugar in 1946-47, while in 1947-48 it worked out to 60 per cent of the price of sugar. The percentage is worked out on the basis of the price of sugar less the amount of excise duty of Rs. 2-3-3 per maund.

Increased Labour Charges since 1946

During the last 3 years the cost of manufacture has also gone up greatly, particularly in respect of minimum wages and dearness allowance, which have been increased considerably as a result of the recommendations of the Labour Inquiry Committee by the Government of U.P. and Bihar. Wages, therefore, have also become a considerably heavy item of expenditure, and unless wages are pegged this item may still show an upward tendency.

Reduction of Prices Essential; Research of Fundamental Importance

A review of the sugar prices would also indicate the great necessity of bringing down the present price of sugar, both because this operates as a hardship on the consumer, as also because it retards the consumption and militates against the possibility of export of sugar from India to the various adjacent countries like Middle East, Turkey, Persian Gulf Ports, Burma and Ceylon, who are unable to get their requirements from India due to the extremely high prices in the country. In fact to some extent foreign sugar may be cheaper, if quantities are available

from Cuba, Brazil and other countries. The difficulty of getting Dollars, however, sometimes stands in the way of availability of supplies of sugar for purposes of export, and due to this there is considerable distress in these areas owing to paucity of sugar supplies.

The biggest single item in the manufacture of sugar, as pointed out above, is the price of sugarcane, which accounts for between 60 per cent to 70 per cent of the cost of production, and no tangible reduction in the price of sugar can be made unless the price of the raw material, namely, cane, is brought down considerably. This is not possible unless the yield of cane per acre is increased considerably by means of comprehensive research work. This is the most important single matter before the industry and the Government, and we suggest with all the emphasis at our command that strenuous measures should be undertaken with a view to bringing down the price of sugarcane. This, we suggest, can only be done by increasing the yield of cane per acre from its present low level of about 14 tons in India as a whole, to the level of Java, which produced in the pre-war period about 56 tons per acre. In other sugar producing countries of the world also the yield of cane is very much higher than India, and the recovery is also higher. In both these directions India has to make up a lot of leeway. Fortunately for us a larger amount of money has now been earmarked by the Government of India for purposes of research work on the recommendations of the Tariff Board (1947), and at the present time a sum of 4 annas per cwt. out of the proceeds of the excise duty on sugar is made available for the expenditure on research work. This will mean roughly an allocation of about Rs. 50,00,000 as against the present expenditure of only about Rs. 11,00,000 per annum. We feel that if suitable short-term and long-term policies in this matter are chalked out before long in consultation with the industry, a lot of improvement can be made, in respect of the yield of cane per acre and in the quality of cane, and consequently also in respect of reduction in the cost of production of cane, which is vital for effecting a reduction in the price of sugar.

In our *Annual* last year, we had pointed out that for the 1945-46 and 1946-47 seasons sugar factories in India were unable to make even reasonable profits and in the interest of the development of a sound industry and of larger production of sugar, we had urged the necessity of allowing a suitable increase in the price of sugar when the prices for the 1947-48 season were fixed by the Government of India. We are glad that this was done and in order to compensate the factories for the two lean seasons and to ensure that they progressed on sound lines, the Government computed the cost of manufacture liberally and also allowed a fair margin of profit so as to create an inducement in the minds of factory-owners for production of more quantities of sugar, unlike the past 3-4 years. It is also a matter of pleasure to find that partly as a result of the decontrol, the inducement to factories to produce more as a result of larger profit allowed, and the larger availability of cane due to the fixation of high prices of cane which prevented the diversion of cane to other uses, the production of sugar has gone beyond 10,50,000 tons, which, at the present low rate of consumption, is slightly more than is required by India for her own use.

Consumption of Sugar falls due to High Prices

There has also been an increase in the area under cane to the extent of about 10 per cent and we trust that in the year 1948-49 the total production of sugar will not fall short of the production in 1947-48, namely 10,56,000 tons, although the crop is reported to be damaged in some areas. As a result of the extraordinarily high rise in the price of sugar, the consumption during 1947-48 has fallen particularly with the fall in the price of *gur*, which is an article of diet to the millions in the country and the production of which is about 3 times the production of sugar, and there has been a carry-over of about 2,00,000 tons of sugar during the year 1947-48. With the production of Khandsari and of sugar from *gur*, the total production of sugar in the country during 1948-49 should not, in our opinion, be less than 11,50,000 tons. If there is a reduction in the price of sugar to the level of about Rs. 29 per maund consequent upon a reduction in the price of cane, etc. we expect the consumption in the country to increase to some extent, and if this materialises the carry-over in 1949 will not be as large as in 1948. Besides, it will open out the possibility of export of sugar to the extent of about 1,50,000 tons to the neighbouring countries. This will be advantageous both from the point of view of expansion of the industry and earning foreign exchange so essential for improving the economy of the country.

Sugar Industry's Controlled Profits till 1947

We stated in our *Annual* last year that as a result of rigid control instituted by the Provincial Governments as well as the Government of India over the sugar industry for the past few years, particularly after 1942, when the Sugar Control Order was passed by the Central Government, the sugar industry has been working under certain conditions in which it has not been possible for many factories to derive even normal profits which could be reasonably expected by the industry. In fact, as a result of the control over the price of cane by the Provincial Governments and the fixation of prices of manufactured products, namely, sugar and molasses, the amount of profit which the industry has been allowed to make has been extremely meagre. Besides, it should be remembered that no opportunity was allowed to the sugar industry to make larger profits even during the war period, as was allowed, for instance, in the case of the cotton textile industry.

What is more, when the prices have been fixed by the Sugar Controller on the basis of the various items which enter into the cost of production, an allowance of 10 per cent profit was made on the block, and although the cost of manufacture went up, it was allowed only 10 per cent which was fixed in the beginning by the Sugar Controller, and the basis of computation of costs was not altered by the Sugar Controller to suit the circumstances of every season, and this resulted in a great deal of dissatisfaction being caused in the minds of industrialists. As a matter of fact, the present price depends upon the scale fixed by Mr. R. C. Srivastava, former Director of the Indian (then Imperial) Institute of Sugar Technology, in the year 1938-39, on the basis of the data of previous two working seasons when ample cane supplies were available. There has been a great increase in the rates of taxes since 1938-39, and therefore a very substantial part of the profit

of 10 per cent of the original block is absorbed by higher taxation, leaving a very small margin to the factories. Although representations were made for an increase of profit on this account, no action was taken in this matter till the year 1947. It is a matter of gratification, however, that in 1947-48 the profit of the industry has been calculated in a liberal manner and the industry has been allowed an opportunity to make good some of its past losses and to obtain a fair return on the capital in the current year. We trust that this policy will be continued in the years to come so that the industry may grow on sound lines.

We also feel that the Tariff Board should revise the scale of 10 per cent profit on the block in view of the altered structure of taxation in the country, greatly increased costs of replacement and renewals, etc.

In our last *Annual*, we have given statements showing the then accepted basis of fixation of sugar prices, and in the portion entitled "Sugar Industry at a Glance" in this year's *Annual*, we have given details of the items which have led to the fixation of the price of sugar at Rs. 35-7-0 per maund by the Sugar Syndicate with the approval of the Governments of U.P. and Bihar and the Government of India in 1947-48 (*vide* Table No. 29A, on page xiv).

As a Tariff Board inquiry is being undertaken this year to ascertain and recommend whether protection should be continued to the sugar industry beyond the 31st March 1949, we would suggest that the views expressed by the Sugar Controller before the 1947 Tariff Board that the balance of profit left to sugar factories after paying 4 per cent taxation taking 2 per cent as reserve, was only 4 per cent, should be carefully considered, and a suitable higher profit should be allowed to the sugar factories in the years to come.

International Emergency Food Council's Allocation of 30,000 Tons of Sugar in 1947

We referred last year to the allocation of 30,000 tons of sugar to India at controlled price by the International Emergency Food Council. This quantity of 30,000 tons was accepted from Cuba by the Government of India and arrived in India in 1947. We understand from the Ministry of Food that actually 29,160 long tons of sugar were imported into India in 1947 from Cuba, and that this sugar was purchased at 6.3488 c per lb. nett f.a.s. Cuba, or Rs. 474 per ton. During the year 1948, the Government of India has not asked the International Emergency Food Council for any further allotment of sugar. Out of this 29,160 long tons of Cuban sugar imported into India in the year 1947, 14,771 tons were delivered to Pakistan. In addition, 10,000 tons of sugar from Indian production was exported to Pakistan upto the middle of 1948.

Sales of Sugar to Pakistan in 1948 ; Criticism answered

There have been several reports during August|September 1948, of large quantities of sugar having been exported by India to Pakistan at rates lower than rates at which sugar was sold for internal consumption in the country. It was also suggested that it was unfair on the part of the manufacturers to charge a higher price for sugar in the country and to let foreign countries have the benefit of lower price. We made some inquiries in this connection from the Indian Sugar

Syndicate, from whom we learned that upto September 1948, only about 8,000 tons of sugar were sold to Pakistan by member-factories of the Syndicate and the price of this sugar was 3 per cent to 4 per cent less than the price of sugar in India, plus freight. Sales to Pakistan at these rates were, we understand, made at a time when factories were pressed with heavy stocks. There appears to be no reason for alarm.

Decontrol of Sugar in December 1947

Sometime before our 1946-47 *Annual* was published, the Government of India had issued a press note stating that they had decided to continue the control on sugar and *gur*. The main reasons, it was explained, were the overall shortage of sugar in the country which could not be made up by imports from abroad due to lack of foreign exchange, the present effective control over the procurement and distribution of sugar and the certainty of a rise in the price of sugar in the event of decontrol. It was also stated that this would result in higher prices of sugarcane which in its turn would upset the present levels of foodgrain prices, particularly in the U.P. and Bihar.

This communique was issued on the 3rd October 1947. Between that date and the 8th December 1947, there was a vehement cry for decontrol of food and sugar, when the Government of India reversed their decision on their above policy hardly before the ink was dry, and announced the decontrol of sugar with effect from the 8th December 1947. In this context it will be very useful, for the purpose of record, to give extracts from the speech of the Hon'ble Dr. Rajendra Prasad, Minister for Food and Agriculture, Government of India, in the Constitutional Assembly on the 10th December 1947 :

Food Minister's Speech in Parliament on 10th December 1947

" Now I come to sugar. When a decision was taken to decontrol, gradually and in a progressive way, foodgrains, it was felt that there was no justification for maintaining control in the case of sugar which after all is not as essential a foodstuff as cereals. The control of sugar has also created a most curious situation. Under rationing everyone is entitled to a certain quantity of sugar like every other foodgrain. Many people who are not used to taking sugar have under the rationing system to take it. Many others who used to take more sugar formerly have to be content with the quantity that is rationed out to them. So, while on the one hand people who do not need it have to take it, on the other people who do need it do not get it. Those who do not need it pass on the sugar to the black market and that is one of the sources from where black markets are fed. The price of sugar in the black market has been anything between Rs. 55 and Rs. 65 as against Rs. 21-4-0, which was the ex-factory controlled price till yesterday. I am not hoping that as a result of this control the price of sugar will not go beyond Rs. 21 where it has been, but I am hoping it will be nothing like Rs. 55 or Rs. 65, which has been the prevalent black market price today. There has been also another effect of control of sugar. The quantity of sugar produced in the country has gone on decreasing progressively and the season 1946-47 has seen the lowest on record within recent years. We have had only 9,05,000 tons produced in India in 1946-47, or, if you add the production in Pakistan, 9,25,000 tons, as against more than 11,00,000 tons which it had reached some years previously. The

reason for this reduction that is suggested is that the growers have not been paid the price which they ought to get, and they have not been able to produce as much as they used to produce before. The quality of cane has also deteriorated leading to a fall in the recovery of sugar from the sugarcane from 10.5 to something about 10 or below 10. It is suggested that if the price of sugarcane is raised, the price of sugar will naturally rise because sugarcane is the biggest element in the production of sugar. The cost of labour is also going to be raised. It was something like Rs. 22-8-0 before last year. This year in the United Provinces and Bihar, the minimum is going to be something like Rs. 45. The price of sugarcane was 14 annas before last year. It was raised to Re. 1-4-0 during the last season. This season it is going to be nothing less than Rs. 2. Now these elements are bound to raise the price of sugar which will be produced in the season which is now commencing, and when we think of the increase in the price of sugar, we should not attribute the whole of it to decontrol because the greater part of it will be due to these causes, and I do not know what part of it, but only some part of it may be due to decontrol.

All these considerations have led the Government to come to its decision. Within recent months Honourable Members are aware that Mahatma Gandhi has raised his powerful voice against control. That is sure to make the continuance of control even more difficult than it has been in the past. But I am hoping that the policy which the Government has now decided to adopt will in the same measure be benefited by the same powerful voice, and this policy has a better chance of success now than the policy which we are now giving up gradually. But we are not taking risks without making some arrangement to get out of the difficulty if a really difficult situation arises."

The various reasons which led to the immediate reversal of the Government's policy as also the expectations of the Government following the period of decontrol have been brought out in extenso in this speech.

Decontrol succeeds in case of Sugar

We have already observed elsewhere that except for a short period when there was bound to be a rise in price, the results have been fairly satisfactory, and the policy in relation to decontrol of sugar can be said to have achieved a fair measure of success. It is this realisation that led the Government of India to decide not to control sugar, although they decided in September 1948, to re-impose control over prices, procurement and distribution of foodgrains all over India. The Hon'ble Minister for Agriculture and Food, Shri Jairamdas Daulatram, announced this decision in a press conference in New Delhi in September 1948, stating that the decision regarding control of foodgrains has been taken as "part of a programme of action to deal with the present economic situation and the threat of inflation. The control of cotton and cloth (in August 1948) was the first step, the control of food is the second step, the control of a few more of essential commodities and certain other steps to deal with the problem of inflation is yet to follow."

It was also stated that it was proposed by October 1949, to take the country to the same position as regards monopoly procurement and rationing which existed in November 1947, when controls were lifted.

No Control necessary for Sugar and Gur in 1948

As in the case of sugar, *gur* is also not to be controlled, and the present position will continue. There will be no rationing of sugar or *gur*. Government have stated that they will continue to fix the prices of sugar and of sugarcane in consultation with the industry as in the past. The Hon'ble Minister also expressed the hope that sugar in the form of *gur*, Khandsari and refined sugar will be produced in twice the present quantities and be available to the Indian people at reasonably cheap prices.

Review of the Control Policy regarding Sugar Industry since 1942

It is hardly necessary to comment at any great length on the success achieved in respect of control of sugar during the past six years, as the matter is now only of academic interest. Besides, we have done so every year in our previous *Annuals* for the past five years. Generally, however, it may be stated that although the appearance of control was felt irksome towards its commencement in April 1942, the control worked successfully during the later years as a result of the improvement made in the machinery of control from year to year. This does not mean that black market operations did not exist in respect of sugar, or that sugar was distributed equitably among the people in all parts of the country. It must be observed, however, that on the whole control over sugar has worked satisfactorily with the exception of a few places where black markets flourished for some time due to the shortage of sugar, and the defects in the machinery of distribution of Provincial Governments and States.

In one important respect, however, control cannot be said to have succeeded and that is in adding to the production of sugar in the country, as was one of its avowed aims. As has been observed above, production was almost continuously on the decline since 1942-43, and it has gone up only in the year 1947-48, after sugar was decontrolled. It is significant to note, however, that production of *gur* was maintained all through the six years of operation of control.

Now, if the industry co-operates with the new National Government in an equitable distribution of sugar at reasonable rates fixed by the Government from time to time in consultation with the industry, and if the industry maintains the present production, it appears to us that Government will allow the industry to run as at present, unfettered by control. We trust that the Indian Sugar Syndicate which has been doing all it can to ensure proper distribution of sugar at controlled rates, will maintain its efforts in the same direction and give no cause to Government for dissatisfaction in this respect. If sugar is for any reason again rationed due to shortage of supply or abnormal rise in prices, the consumption will again go down, and it will lead to black market activities as people who require sugar in larger quantities will not get it, and people who do not need it will be able to obtain it and sell it at higher rates.

We urge that the transport situation which has led to difficulties in consignments of sugar going to areas where they are required should be carefully watched and remedied, for in that event, it will be possible to supply sugar to all parts of the country at reasonable rates, as the supply is, and is likely to remain sufficient.

Control of Gur also removed—Research Essential

As in the case of sugar, there will be no control over *gur* also, and we hope that *gur* will also continue to be sold at fair rates in all parts of the country in requisite quantities. We also trust that the position of the *gur* industry, which consumes more than half the cane produced in the country, will be improved, as this will result in improvement of the rural economy of the country. It is not realised by everyone that production of *gur* is about 3 to 3½ times the production of sugar in the country and that the *per capita* consumption of *gur* works out to 20 lbs. as compared with 6 lbs. of sugar. It is a very valuable article of diet for the millions in the country and constitutes a village industry which deserves every support from the National Government.

In fact, we feel that research work should also be undertaken in the *gur* industry with a view to enabling the industry to function more efficiently. The problems of the *gur* industry are numerous and complex and we suggest that the Indian Central Sugarcane Committee should devote its careful attention to devise measures for improvement in the conditions of this industry.

Gur Production—U.P., largest producer of Gur

A table in the *Annual* shows the total net calculated production of *gur* in India for the past few years. A glance at Table No. 27 will show that the production of *gur* in 1947-48 was 30,17,000 tons as compared with 35,74,000 tons in 1946-47. It may be of interest to note that the production of *gur* in U.P. which is the largest producer of *gur* in the country in 1945-46 was 12,19,000 tons and in 1946-47, 13,37,000 tons, while the production in Bihar was only 1,55,000 tons in 1945-46 and 1,66,000 tons in 1946-47.

Export of Gur to Pakistan permitted

The Government of India issued a notification on the 18th May 1948, intimating that they had decided to allow export of *gur* (as also of sugar) from the Indian Union with immediate effect and that no export permit would be necessary for this purpose. The average price of *gur* at the present time is Rs. 12 per maund as compared with the price of sugar, namely, Rs. 35-7-0 per maund (October 1948).

Palm Gur—Development of Palm Gur Industry Essential

We are gratified to find that strenuous efforts are being made by the Government of India in the Ministry of Agriculture to resuscitate the manufacture of *gur* from palm. As is well known, palm is a perennial supplier of sugar. The number of tappable palms in India is estimated at about 15 crores which are capable of increasing the *gur* production by about 10,00,000 tons per year. The palm yields about 6,000 lbs. of sugar per acre, while the yield from sugarcane is only about half of it. During 1947-48, the Ministry of Agriculture sanctioned a sum of Rs. 1,40,000 for development of the palm *gur* scheme in the provinces. The following note * describes the species of palm, namely, date, palm and sago, and outlines the possibilities of the manufacture of *gur* from

* *Vide* articles in the *Indian Information*, dated June 1948.

palm. It also suggests new directions for development of this centuries old industry in India :—

"Anyone who has lived in South India or Bengal will have often seen men climbing palm trees and tapping them for toddy, but few of them know that from the juice of the palm trees *gur* has been manufactured for centuries. Despite all the progress made in the production of factory sugar, the indigenous palm *gur* production has survived to this day. In the days of the East India Company palm *gur* formed an important item of our export trade and even today about 1,75,000 tons of *gur* is made from the juice of palm trees in the villages of Bengal and Madras. No large investment is necessary and no elaborate technique is involved; the tools for tapping are prepared by village smiths and there are no inherent dangers of centralised production leading to the accumulation of wealth in the hands of a few."

"There are three species of palm, the date, palmyra and sago; the tree can be grown on non-agricultural waste land and needs neither manuring, irrigation nor protection against wild animals. If grown on the bunds of fields or banks of rivers and canals, the palm prevents land erosion, and as a wind breaker it protects crops in the fields. Its various parts, the leaf, stalks, trunk and fibre, are all useful to the agriculturist for making matting, ropes, baskets, water drums, fencing and sheds. Its tender leaves provide useful fodder for cattle. Unlike the sugarcane, which perishes seasonally, the palm is a perennial supplier of sugar and the palmyra variety is a centenarian."

"The palmyra yields 6,000 lbs. per acre of *gur*; the yield from the sugarcane is just about half. Even on the assumption that palmyra *gur* and sugar cannot compete against the mill product, the need for an increase in *gur* production will be clear from the figures of *per capita* consumption of *gur* and sugar in India with those in other countries. As against an annual average of 26 lbs. in India, it is 75 lbs. in U.K. and 85 lbs. in U.S.A."

"One of the greatest handicaps of the Indian agriculturist is the lack of subsidiary occupation for guaranteeing an equilibrium in his agrarian economy. As about 80 per cent of the population depends on agriculture, only decentralised industries requiring small investments, handy tools and simple technique can adequately serve the purpose. All these requirements are fulfilled by palm *gur* manufacture. The men tap the juice and the women boil it. All village artisans, the potter, the smith, the tanner and the carpenter contribute to the successful prosecution of the palm *gur* production."

"Although there are thousands of palm trees in other provinces besides Madras and Bengal, palm *gur* is almost unknown in other areas. Only about 10 per cent of the trees are used in the manufacture of toddy for fermenting the juice; the other trees serve no purpose. Because of the rapid progress of prohibition even these few trees will remain unutilized, and a large number of tappers will have to find alternative employment."

"Realising the importance of palm *gur* manufacture as a cottage industry and as a means of providing employment to a large number of toddy tappers, the Central Ministry of Agriculture has sanctioned a sum of Rs. 1,40,000 for the current year (1947-48) for developing palm

gur schemes in the provinces. This work has been entrusted to Mr. Gajanan Naik,* an inmate of Mahatma Gandhi's ashram at Sewagram, Wardha, who has to his credit a great deal of pioneering effort in connection with the preparation of *gur* and sugar from palmyra juice."

"He is at present engaged on three aspects of the problem, (1) the collection of statistics regarding the number of palm trees of different kinds and state of industry in various provinces, (2) the importance of standardisation of the methods of tapping, and (3) standardisation of the methods of preserving tapped juice to prevent fermentation and improving the final product. Considering that the number of tappable palms is estimated at 5 crores the annual *gur* production in India can be increased by about 10,00,000 tons."

"It may not also be beyond the possibility of science to develop shorter varieties of palmyra trees not higher than 8 or 10 ft. which can be more easily tapped than at present, for one of the greatest handicaps in the development of this industry is the high labour cost involved, because the climbing of trees is more laborious than the actual tapping."

"Among the cardinal features of the present exploratory scheme of the Ministry of Agriculture is to evolve methods suited to village conditions and in keeping with the capacity of village workers, who are not familiar with the handling of complicated machinery and cannot afford expensive chemicals."

"The juice of the palm, which for ages past has been used to intoxicate the masses, can now help in increasing India's *gur* production, in improving the low nutrition of her undernourished people and in adding to the country's national income."

Production of Gur from Nira in Bombay †

The Government of Bombay have also approved a scheme prepared by the Village Industries Committee for the training of 200 families in the art of tapping palm trees for extracting nira to be manufactured into *gur*, and also for starting several production centres and teaching villagers the preparation of the best variety of *gur*. A grant-in-aid for expenditure on the scheme has also been sanctioned in 1947-48. It is also said that no tax will be charged for the trees and the cost of excise supervision under the scheme is to be borne by the Government of Bombay.

If the development of the palm *gur* industry is thus seriously encouraged, we feel that within the next 30-40 years, bulk of the 3 million acres of good agricultural land which is under cane at present could be relieved and this would be helpful for production of cereals and other food crops of which there is serious deficiency in the country at present. We would, therefore, cordially welcome the efforts of the Ministry of Agriculture and the Indian Central Sugarcane Committee in this behalf and trust that they will take the matter earnestly in hand, spend liberally on research work in this direction and achieve satisfactory results before long. In this connection we invite the attention of our readers to a detailed discussion of this question in Appendix III

* Mr. Naik is attached to the Ministry of Agriculture, New Delhi.

† The Governments of West Bengal and Madras are also taking steps for developing this industry.

of "The Problems of Sugar Industry in India" by Mr. M. P. Gandhi, Editor of this *Annual*, published in 1945, with a foreword by Sir Purshotamdas Thakurdas, K.B.E., 425 pages, Price Rs. 12.

Production of Khandsari Sugar in India

In our *Annual* last year we discussed the question of Khandsari sugar and its control, and also referred to the U.P. Khandsari Act, 1947, seeking to control the price of Khandsari sugar. With the lifting of control on sugar, the control on Khandsari was also removed. It has been difficult to get reliable figures of the production of Khandsari sugar which have been always of the nature of an estimate. The Director of the Indian Institute of Sugar Technology, Kanpur, however, reports that the production in 1947-48 may be taken as 98,000 tons as compared with 1,05,000 tons in 1946-47. There was no control over prices of Khandsari sugar after December 1947.

There is no reason to explain the fall in production of Khandsari sugar during the year 1947-48, except that the price of cane being very high (Rs. 2 per maund) the quantity of cane diverted for the manufacture of Khandsari has been small. It is well known that Khandsari is a less economic method of producing sugar as compared with the factories, due to the smaller recovery percentage, the sugar recovery being only 5½ per cent as compared with 10 per cent in factories. Even so production of Khandsari sugar has been maintained at this level for some years past due to the high price available for Khandsari sugar, in the absence of proper control thereon particularly under the prevailing erstwhile shortage of sugar in the country, and the special uses of this sugar which is also preferred by the orthodox people. The Government of U.P., where the production of Khandsari sugar is heavily concentrated, were not able to control it efficiently during the control period (1942-47) due to the fact that a large number of agriculturists scattered over the various districts were concerned with it. At the same time it was also felt by the U.P. Government that in some sense Khandsari manufacturers deserve some amount of help, as it was a cottage industry. We cannot conceal the feeling, however, that the low recovery of Khandsari sugar from cane is a national loss and constitutes a wastage of sugar to the extent of the lower recovery as compared with the factories. In this connection we reproduce below a paragraph from the Report of the Panel on Sugar, Alcohol and Food Yeast Industries appointed by the Government of India, Planning and Development Department, published in 1947 :

"Accurate statistics regarding the production of Khandsari sugar are not available, but its average annual production during the recent years may be fairly assumed to be 75,000 tons. Khandsari is a wasteful process of producing sugar and the quality of the product is generally inferior. It is a relic of the past. Until lately there was a special demand for it among the certain orthodox classes and in backward areas, but that has now almost entirely disappeared. There can be no place for it in any system of planned production. Special consideration was given in the past to Khandsari on the ground of its being a useful cottage industry. It is not a strong argument, however, as every grower has the easy alternative of converting his sugarcane into *gur*. It is not desirable, therefore, to adopt any special measures to keep it alive. The excise duty on Khandsari is at present 8 annas per cwt. as against

Rs. 3 per cwt. on sugar produced by vacuum pan factories. It would be desirable to increase it to the latter level as soon as vacuum pan factories are in a position to meet the demand of the country. The production, will, however, even under the present conditions (provided price control is effective) continue to decrease and will, by 1950, we believe, not exceed, say, 50,000 tons." (Para 12)

It will be seen that the report fully supports our view in regard to the uneconomic and inefficient character of Khandsari production, as carried on at present.

Production of Sugar by Khandsari and from Gur

Having referred to the question of control on Khandsari, on *gur*, as also on sugar, we will now pass on to the question of the manufacture of Khandsari sugar, and sugar from *gur*.

Refined sugar is manufactured by three different processes in India, namely, (1) direct from cane from modern vacuum pan factories, (2) from cane by indigenous open pan factories, i.e. Khandsari (through the intermediate process of Rab), and (3) from *gur* refined in modern refineries.

Khandsari Sugar

A detailed reference has already been made to the production of sugar by the first method, i.e. direct from cane in modern vacuum pan factories. In regard to sugar production by Khandsari, no reliable and definite statistics are available but an estimate can roughly be made from reports. The operation of Khandsari is particularly noticeable in the United Provinces where 66 per cent of the total Khandsari sugar production in India is being produced. It was estimated by the authors of " Report on the marketing of Sugar in India and Burma " that *Khand* formed nearly 13 per cent of the total white sugar made in India. About 85 per cent of the quantity of *Khand* is directly prepared from cane or juice and the rest by re-melting *gur*. Like *gur* sugar, its production also depends upon the relative prices of cane, *gur* and sugar in any year.

The quantity of Khandsari sugar manufactured from cane has varied considerably in recent years. While in 1938-39 it was 1,00,000 tons, in 1940-41 it was 2,00,000 tons, in 1942-43 it was 2,14,000 tons and in 1945-46 it was 1,17,000 tons, in 1946-47 it was estimated at 1,05,000 tons. It should be observed, however, that the estimates of manufacture of Khandsari sugar are merely conjectural. There is considerable difference in regard to the correct estimates of production of Khandsari sugar. The Sugar Controller is of the opinion that the estimate of Khandsari-production of the Director, Imperial Institute of Sugar Technology, Cawnpore, as given in Table No. 1, from 1943-44 onwards, are over-estimates. His own opinion is that the production of Khandsari sugar has not exceeded 1,00,000 tons in any of the years from 1943-44 to 1946-47, and that the production for 1946-47 is only about 75,000 tons. It will be of interest to note that out of the total production of 1,17,000 tons of Khandsari sugar in 1945-46 in India, 78,000 tons was produced in U.P., 7,200 tons in Bihar, and 31,800 tons in the rest of India. In 1946-47, the production of Khandsari sugar was estimated at 1,05,000 tons. Of these, 69,000 tons is estimated by the Provincial Khandsari Controller of U.P. as produced in U.P., 7,300 tons in Bihar,

and 33,700 tons in the rest of India. These were the estimates furnished by the Director, Imperial Institute of Sugar Technology which appear to be over-estimates to the Sugar Controller of the Government of India, as stated above. The production in 1947-48 is estimated at 98,000 tons.

In this connection it is necessary to observe that although the estimated production of Khandsari sugar is so large, the increase in the amount of excise duty collected is very low, and this points to a very small production. The reason for the collection of such a small amount of excise duty, however, is found in the fact that many Khandsaris are small units which easily escape paying excise duty. The total amount of excise duty collected from production of Khandsari sugar in 1934-35 and subsequent years is as follows :—

Year	Amount Rs.	Year	Amount Rs.	Year	Amount Rs.
1934–35 ...	77,000	1939–40 ...	1,46,000	1944–45 ...	9,90,000
1935–36 ...	60,000	1940–41 ..	2,86,000	1945–46 ...	2,27,000
1936–37 ...	47,000	1941–42 ...	4,43,000	1946–47 ...	2,39,000
1937–38 ...	51,000	1942–43 ...	1,57,000	1947–48 ...	2,00,000*
1938–39 ...	59,000	1943–44 ...	5,09,000		

The present rate of excise duty on Khandsari sugar is eight annas per cwt. only.

If all the Khandsari sugar pays duty, it would come to about Rs. 14 lakhs per year, as against a meagre Rs. 2 lakhs collected now.

Khandsari Production in Factories liable to Excise Duty.

Although production of Khandsari sugar is estimated at about 1,00,000 tons every year, the total quantity of Khandsari sugar manufactured in British India in factories *using power and paying excise duty at the rate of 8 annas per cwt. is very small indeed.* The following figures received from the Central Board of Revenue, New Delhi, showing the production of Khandsari sugar manufactured in the Indian Dominion factories *using power*, from 1941-42 to 1947-48, will be of interest.

Year	*Khandsari Production in tons in Factories using power*
1941-42	27,900
1942-43	15,950
1943-44	21,400
1944-45	25,750
1945-46	17,000
1946-47	21,154
1947-48	18,692

Definition of Khandsari Sugar

Under the Sugar Excise Duty Act, 1934, excise duty is levied on Khandsari sugar (i.e. sugar in the manufacture of which neither vacuum pan nor vacuum evaporator is employed) under Section 3 (1) of the

* *Vide* Central Excise (Statistics and Intelligence Branch), New Delhi, Letter No ST-1615|47 of October 1948.

Act. For the purpose of the Act 'sugar' means any form of sugar containing more than ninety per cent of sucrose, and in order that sugar may be taxable, it must be produced in a factory which means any premises in any part of which any manufacturing process connected with the production of sugar is being carried on or is ordinarily carried on with the aid of power. The sugar produced by the purely agricultural section of the Open Pan Sugar Industry where work is done without the aid of power is not liable to excise duty. Similarly, products like *gur* and Rab which do not contain 90 per cent of sucrose are not liable to excise duty. It is well-known that several small-sized-vacuum pan concerns manufacturing Khandsari sugar had in order to avoid the excise duty, so adjusted their business that they would not come within the provision of the definition of a 'factory'. With effect from 28th February 1939, however, under the amended definition of 'factory' they were also liable to excise duty at the rate of Re. 0-8-0 per cwt.

Advantages of Khandsari

Khandsari production is still being continued because the Khandsaris enjoy definite advantages in spite of the uneconomic method of production of sugar. The Khandsaris do not pay (*a*) cess on cane which the factories will have to pay, (*b*) incur no expenses by way of commission to co-operative societies, (*c*) spend nothing in railway freight or other transport costs for supplies of sugarcane, and (*d*) possibly escape on occasions even the payment of excise duty of Re. 0-8-0 per cwt. All these factors are responsible for the continued existence of Khandsari production of sugar. The total cost of manufacture of Khandsari sugar was estimated in 1938-39 at Re. 1 to Re. 1-4-0 per maund. The Report on the Marketing of Sugar estimates the approximate cost of a typical Khandsari concern in Rohilkhand (U.P.) at Re. 1-1-8 per maund for *khand* received and *rab* treated at Re. 0-3-7 per maund.

Research in Khandsari Sugar

Khandsari industry appears to be at an advantage in the interior areas, far removed from factories where cane is available cheaply and which cannot be disposed of in any other profitable way. The Khandsari sugar factories can be helped by the Government by improvement of the equipment and introduction of improved types of crushers, juice-boiling bells, etc.; by improvement of the methods of manufacture in order to improve the quality of the finished product; and by better facilities for getting the necessary equipment on hire and by better marketing facilities. The Imperial Council of Agricultural Research sanctioned a grant of Rs. 1,67,380 for the establishment of a Sugar Research Testing Station for the indigenous system of *gur* and sugar manufacture for a period of 5 years ending in November 1941. A small grant was also made to the Government of Bihar for investigation into the possibilities of manufacturing Khandsari sugar by single pan method. But so far no material results of these schemes have been placed before the public. The Indian Central Sugarcane Committee has also been taking some interest and exploring the avenues of adopting better methods and getting improved qualities of sugar by the Khandsaris. In 1945-46 and 1947, Khandsari sugar production received

an impetus as it was possible to sell Khandsari sugar at rates far higher than the controlled rates and it became very profitable.

In 1947-48, the production seems to have fallen to 98,000 tons only.

Position of Khandsari and Gur Industry in the Rural Economy—Measures for Improvement in 1947-48

The Ministry of Agriculture has been evincing great care and concern for the development and improvement of the Khandsari and *gur* manufacturing industries in the country since 1946-47. Efforts are being made for appointing a special sub-committee of the Indian Central Sugarcane Committee for concentrating their attention on the problems of the Khandsari and *gur* industry. The Hon'ble Shri Jairamdas Daulatram, in his opening address at the 10th meeting of the Indian Central Sugarcane Committee, held in New Delhi on the 9th October 1948, remarked that "this was not the occasion for comparing the value of the various products of sugarcane from the purely nutritional point of view, but as a very large number of our agriculturists and rural population are engaged in the development of these products of cane, it is imperative that we should give them the place which is their due under the programme of the Indian Central Sugarcane Committee". We also feel that if these cottage industries are to play their proper role in the agricultural economy of India, as has been stressed in the statement of the Industrial Policy issued by the Government of India, in April 1948, they should be put on a better footing by improving their efficiency. We would, therefore, suggest that the Indian Central Sugarcane Committee should devote special attention to this aspect and undertake schemes for improving the *gur* and Khandsari industry in various directions, e.g. increasing recovery from cane and devising better storage methods of *gur* under different climatic conditions. It would be helpful if suitable literature can also be published in simple Hindustani suggesting improvements for the benefit of the large number of people concerned in these cottage industries.* We were particularly happy to find from the Administration Report of the Indian Central Sugarcane Committee for the year 1946-47, that research work was being continued at Bilari for improvement of Khandsari industry and that training was given to a few men on this subject. We hope that the scheme of writing a Technical Monograph on the *gur* industry of India, which was undertaken in June 1946, will materialise before long, as it will be very valuable.

Consumption of Sugar and Gur in India must be increased

The present annual consumption of sugar is roughly estimated to be about 10 lakhs tons per year (our *per capita* consumption of sugar and *gur* is small as compared with other countries of the world in normal times as a glance at the Tables Nos. 4 and 5 in the *Sugar Industry at a Glance* will show). During the years 1943 to 1947, due to the introduction of rationing, the *per capita* consumption of sugar in India has even come down further. Consumption of sugar in India, however, is not steady and varies from year to year with the rise and fall of the price of sugar, and with changes in economic conditions, etc. But we will

* We would also suggest that the Cottage Industries Board, to be set up by the Ministry of Industry and Supply, should give its careful attention to the question of increasing the efficiency and development of these industries.

not be far wrong if we estimate the annual consumption of sugar in India at $10\frac{3}{4}$ lakhs tons in 1938-39, $10\frac{1}{4}$ lakhs tons in 1939-40, 10 lakhs tons in 1940-41, 11 lakhs tons in 1941-42, 10 lakhs tons in 1942-43, 10 lakhs tons in 1943-44, and $9\frac{1}{2}$ lakhs tons in 1944-45, and 10 lakhs tons in 1945-46 and in 1946-47. The labourers employed in war-time industries in urban towns, the soldiers who served in the war, and inflationary conditions have resulted in the creation of a new class of consumers of sugar—a class which had never taken to consumption of sugar before. Consequently demand from civilian sources for consumption has also increased in quantity. Increase in the habit of consuming sugar is helpful to the industry for the future. It can definitely be expected that the internal consumption of sugar would be higher due to the higher standard of living following from the huge plans for the economic development of the country. And any National Plan which contemplates the provision of basic amenities like good food, etc. if implemented, will necessarily give an impetus for consumption of sugar as an essential article of food by millions in this country. Therefore in the years to come, there are large prospects for increased consumption of sugar in the country itself.

Even an output of 15 lakhs tons can now easily be consumed if prices can be brought down to a suitably low level. The consumption of *gur* is almost stationary at about 35 lakhs tons per year.

Doubling of Production suggested by Government

The Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, observed at the 10th meeting of the Indian Central Sugarcane Committee on the 9th October 1948 that the interests of the nation demand that sugar in the form of *gur*, Khandsari sugar, and refined sugar, should all be produced in twice the present quantity and be available to the people at reasonably cheap prices. He also stated that the present high price of sugar (namely Rs. 35-7-0 per maund) was a danger signal. He also observed that the citizen in India needed more nutrition than he was receiving today, and that the *per capita* consumption of both sugar and *gur* in India was about 26 lbs. in India, as against the average of 88 lbs. in Cuba, 97 lbs. in U.S.A. and 106 lbs. in U.K. On the basis of consumption of at least 2 oz. per day as part of a well-balanced diet, the citizen of India would need about 46 lbs. a year. This shows *that the gur and sugar industry should at least double their production if the Indian citizen is to have his due in the matter of nutritious food.*

We hope the day is not far distant when India will not only produce more sugar but eat more sugar, like other advanced countries, and thus appreciate fully the advantages of having a large domestic industry.

The *per capita* consumption of sugar and *gur*, and expenditure thereon can be seen from table No. 4 and its footnote. It is interesting to know that the *per capita* expenditure on sugar and *gur* works out to Rs. 6 at present.

Imports of Sugar and Negligible Revenue from Import Duty

As a result of the development of the sugar industry in India, imports of sugar have been absolutely negligible since the last six years. The quantity of sugar imported in 1942-43 was 23,000 tons, while the

quantity imported in 1943-44 was 8 tons, in 1944-45 it was 14 tons, and in 1945-46, 35 tons. There was no import in 1946-47. In 1947-48 it was 19 tons. In the year 1948-49 the import was of the order of 29,160 tons from Cuba due to the allocation made by the International Emergency Food Council, for meeting the shortage of sugar in India, of which 14,000 tons was re-exported to Pakistan.

The revenue from the import duty on sugar has been negligible. We expect that there will be practically no import of sugar in future, India having been completely self-sufficient in respect of her requirements.

India exports small quantity of Sugar

In spite of the fact that sugar was rationed till 1947, and there was great scarcity in supplies of sugar for meeting the internal demand, India has been exporting a small quantity of sugar to foreign countries for diplomatic reasons. The export quota for 1940-41 was 13,000 tons, for 1941-42, 18,000 tons, for 1942-43, 30,000 tons, for 1943-44, 17,000 tons, for 1944-45, 18,000 tons. 7,075 tons of sugar were exported in 1945-46, and 1,823 tons in 1946-47. In 1947-48, the quantity exported was 5,243 tons, valued at Rs. 38,68,122. The trade with Pakistan is included in 1947-48. During 1948-49, about 15,000 tons of Cuban sugar (out of the 29,000 tons received from Cuba) was sent to Pakistan, and a further quantity of about 20,000 tons of Indian sugar was sent to Pakistan upto July 1948.

Export Policy in relation to Sugar in Future

We feel that the Government of India should maintain the present practice of export of small quantities of sugar to various destinations in order to preserve the trade, and as soon as production in the country increases, efforts should be made for supplying larger quantities of sugar to these countries which are starved of their supplies of sugar from their normal suppliers. It would also be a matter of great importance for India to maintain such export markets as safety valves for years of over-production, and for that reason it would be desirable to maintain contact with these markets even though exports at the present time may be on a small scale. It should also be the duty of India to guard itself against a return of the position in the pre-war period when, by an International agreement, it was debarred from exporting sugar on the ground that it was normally not in a position to do so. We suggest that in any plan for regulating production of sugar in the country, provision should be made for an annual export of at least 1 lakh tons to neighbouring countries. This export will also enable us to earn some foreign exchange, which is very essential at the present time, for permitting larger quantity of imports of an essential character, like machinery, etc. This will be possible, however, only if prices are considerably lower than today (Rs. 35-7-0 per maund).

It appears to us that it will be possible to export about 2,00,000 tons of sugar to the Middle East, Persian Gulf Ports, Burma, Ceylon and Pakistan, in 1948-49, but this can only be done if the price of sugar in India is brought down to the level of about Rs. 26 per maund under the present context of world prices, and if this is to be done it will be essential to bring down considerably the price of cane (along with the cess

6

on cane), which constitutes between 60 per cent and 70 per cent of the present cost of Indian sugar.

Let us now see the conditions of the sugar industry in other areas in 1947-48.

A Note on the Industry in Madras Province during the season 1947-48

We give below a comprehensive note on the position of the sugar industry in Madras Province during the 1947-48 season.

The area planted with sugarcane in the Madras Province is estimated at 2,47,430 acres. When compared with corresponding estimate of 1,79,960 acres for the previous year and the actual area of 2,02,828 acres, the present estimate reveals an increase of about 37.5 per cent and 22 per cent respectively. The increase in acreage is due to high prices obtained for cane in factory areas and prevalence of high prices for jaggery at the planting time.

Sugar was decontrolled on 8th December 1947, and all notifications and acts governing movement and prices were cancelled. Although the Madras Government did not contemplate fixing cane prices, the factories in the Madras Province made the following arrangements for the payment of cane :—

Factory	*Delivery Price* Rs.	*Final Price.*
Hospet	.. 30	They gave an undertaking that they will pay the price fixed by Government in accordance with the Sugarcane Act.
Mailpatti	.. 30	Same as delivery price.
Tumpalla	.. 43	They made agreements with ryots at Rs. 43 per ton.
Nellikuppam	.. 27	Varied rates for different varieties with an average of Rs. 48 under agreement.
Pugalur	.. 36	" " Rs. 50.
Samalkot	.. 35	" " Rs. 55.
Bobbili and Sitanagaram	.. 44 for Co. 419 .. 47 for Co. 527	Same as delivery price.
Vuyyuru	.. 34	" "
Etikopaka	.. 48	" "

Representatives of the ryots' organisations pressed Government to fix high rates and several discussions between the Madras Government and ryots and members of the South Indian Sugar Mills' Association followed. Finally the Madras Government accepted the compromise proposals put by the South Indian Sugar Mills' Association with slight modifications, fixing the basis for the year 1947-48 and also for future years.

The basis of the cane prices paid has been shown in the earlier portion of the *Annual* (*vide* page xxiii) et seq.

The first forecast of sugar production for this season was 57,000 tons, but on account of decontrol and the Government's desire to crush as much unregistered cane as possible, factory production increased to 60,900 tons as against the 48,700 tons actual last year.

The members of the South Indian Sugar Mills' Association met immediately after decontrol and decided that factories should release sugar zonally, but where, owing to limited storage accommodation, additional quantities must be sold, such sales to be made to deficit areas within the province or outside the province in consultation with the Association. Details of the scheme of distribution are given below :—

Name of Factory	*District to be supplied*
The Sri Rama Sugar Mills, Ltd., Bobbili and Sitanagaram	Vizagapatam District.
The Etikopaka Co-operative Agricultural and Industrial Society, Ltd., Etikopaka	do.
The Vizagapatam Sugars & Refinery, Ltd., Thumpala, Anakapalle P.O.	do.
The K.C.P., Ltd., Vuyyuru	Kistna, Guntur and Nellore Districts.
The India Sugars & Refineries, Ltd., Hospet	Bellary, Anantapur, Kurnool, Chittoor & Cuddapah.
The Deccan Sugar & Abkari Co., Ltd., Pugalur	Trichinopoly, Erode, North Arcot, and Nilgiris Districts.
The East India Distilleries & Sugar Factories, Ltd., Nellikuppam	South Arcot, Tanjore, Ramnad, Madura, Tinnevelly, Salem, Pondicherry, Karaikal, Pudukotah and North Arcot.

The districts of Malabar, South Kanara, Coimbatore and Madras City (including Chingleput District) should obtain supplies from sugar factories on the O. & T. Railway in U.P. and Bihar. In cases where there is a surplus to be cleared by local factories, such quantities are sold in the above Districts. The factories selling in Malabar, South Kanara and Coimbatore are Pugalur and Nellikuppam and, in Madras City, Vuyyuru, Sitanagaram, Hospet and Nellikuppam supply according to stock position.

A Note on the Sugar Industry in Mysore in 1947-48

The season for the Mandya Sugar Factory started towards the end of August 1947, and came to an end in the middle of May 1948, giving 238 working days. During this period, the mill crushed a total quantity of 1,87,868 tons of cane and the quantity of sugar produced is 17,357 tons. The percentage of recovery was only 9.01 per cent as against 10.17 per cent in the preceding season. This was due largely to the poor quality of cane received for crushing.

At the beginning of the season it was estimated that not more than 1,40,000 tons of cane would be available for crushing and that the pro-

duction of sugar would be just sufficient for meeting the internal requirements of the State. But as a result of the altered situation caused by the removal of control over sugar and *gur* during the year under report, a much larger quantity of cane was supplied to the factory, due, firstly, to the attractive price for cane and secondly to the absence of diversion of cane for jaggery manufacture on account of the collapse of the jaggery market.

The ex-factory price of sugar which was Rs. 57-11-0 during the control days was raised to Rs. 97-8-0 per bag after the decontrol. With the removal of control and rationing it was expected that the demand for sugar would go up but this expectation did not materialise probably because of the high price and the availability of *gur* in abundance at very low cost.

The price of sugarcane was not fixed by the Government of Mysore, till June 1948, but it is expected to be in the neighbourhood of Rs. 45 per ton, as against Rs. 32 per ton during the previous year (1946-47).

The total quantity of molasses produced during the year 1947-48 was 9,700 tons but the entire quantity could not be consumed by the Distillery owing to the fall in demand for alcohol. Owing to the policy of prohibition pursued by the Government, the demand for potable alcohol has been on the decline and is likely to disappear completely in the course of the next year or two. Consequent on the reduction of the percentage of alcohol in the petrol-alcohol mixture from 15 per cent to 5 per cent, the off-take of power alcohol remains at 1,50,000 gallons. In view of the greater output of molasses and the decline in demand for potable and industrial alcohol, there is scope for the use of a much larger quantity of power alcohol.

A Note on the Sugar Industry in the Bombay-Deccan in the 1947-48 season

The 1947-48 sugar crushing season in the Bombay-Deccan was not appreciably better than the 1946-47 season due to the Sugar Companies being required to grow foodcrops consequent on Government's policy of reducing the foodgrains deficiency of Bombay Province as far as they can. The factories also experienced great shortage of groundnut cake manure.

The total production of eleven sugar factories in the Bombay-Deccan in 1947-48 season was about 95,000 tons.

In 1946-47 it was 80,899 tons and in 1940-41 it was 1,00,000 tons. Although the sugar industry in the Bombay-Deccan has potential scope for some expansion, that scope is limited in practice, as the industry has to depend upon the supply of irrigation water and there does not seem to be a possibility of increased supply of irrigation water for this industry in the next few years.

The sugar factories are at present making a sacrifice by diverting their cane acreage to foodcrops. The way out seems to be the expansion of irrigation facilities and this depends on Bombay Government taking the necessary steps to bring it about.

In October 1948, the Bombay Government passed the Sugarcane Cess Act, levying with retrospective effect, a cess on cane consumed in

factories, at the rate of three annas per Bengal maund (as in the case of U.P. and Bihar), with effect from 1st January 1948.

The expected yield of the cess is approximately Rs. 33 lakhs in 1947-48. In 1948-49, the yield will be higher.

Bombay Sugar and Power Alcohol Sub-Committee's Report, 1946

In this connection it will be of interest to see the recommendations made in the Report of the Sugar Power Alcohol Sub-Committee appointed by the Food and Forest Industries Sub-Committee of the Government of Bombay. The report of this sub-committee was submitted in August 1946. It recommends that the existing low crushing capacity of factories on the Nira Canals and Godavari Canals should be encouraged to expand to their maximum capacity of 800 tons, during the next 10 years. The report has also recommended to the Government to take up immediately the question of irrigation schemes and also to help factories in acquiring lands near the sugar factories. It also recommends the establishment of a new central distillery for utilising molasses and turn it into fermental by-products, e.g. industrial alcohol. It has also recommended that a distillery should be situated at a central place like Poona from which no sugar factory is beyond 150 miles.

The report also recommends that with the adoption of the prohibition policy by the Government of Bombay, they should insist on the owners of palms, dates and tads that the juice of these palms should be converted into jaggery or other *gur* products instead of being used as tapping for intoxicants. The report states also that the climatic conditions in Bombay resemble closely to tropical countries like Java, Cuba, etc. and that owing to the very heavy manuring required for the land and excessive water charges of Rs. 80 per acre, the cost of sugarcane in Bombay is slightly higher. As against that, the cane yield in the province is easily higher than that of the U.P. and Bihar.

The report estimates the total sugar production in Bombay Province at about 1,00,000 tons, while the consumption is about 2,40,000 tons on the basis of a population of about 3 crores, including the States, and the *per capita* consumption of 18 lbs.

The report states that according to the post-war irrigation scheme of the P.W.D. of the Government of Bombay, about 8,000 acres of agricultural land will be brought under irrigation where sugarcane can be grown in the next 10 years. It states, therefore, that it will be possible to establish two new factories each having a crushing capacity of about 400 tons. The report also quotes the observation by the P.W.D. that "being pressed by the Government of India for an increased supply of cane for the manufacture of white sugar, the Government of Bombay have agreed to the establishment of 3 factories on lift irrigation to be supplemented when necessary by canal water during the hot weather, but these factories are yet to come into existence."

The report also recommends the establishment of a Food Yeast Factory in the province, and suggests to Government to take up its entire production of yeast for the first 3 years at a fixed price.

Effect of Grow-More Food Campaign on Industry in Bombay

In this connection it may be recalled that the Bombay Government, with a view to further the "Grow More Food" campaign, passed in

the middle of 1944, the Bombay Growth of Food Crops Act, thereby compelling the sugar factories of the Province to devote half of the land for cultivation of food crops like cereals for 1944-45 and subsequent seasons. The enforcement of the Act entailed considerable difficulties as the sugar mills were obliged to put 50 per cent of their reserved cultivable area to produce food crops.

In Bombay, one distinguishing feature of the sugar industry is that mills themselves own large plots of land in the areas nearby and raise the major portion of their cane requirements for making sugar. In the U.P., Bihar and other areas, the mills on the contrary, depend for the supply of cane on individual cultivators and small peasants who cultivate the sugarcane crop in their fields. Thus the Bombay sugar factories possess a definite advantage of having all their cane supplies under their own control. The benefits of large-scale cultivation and the use of machinery and tractors for tilling the soil can, thus, be enjoyed by the sugar mills who own large plots. But the enforcement of the Bombay Growth of Food Crops Act for the sugar mills will adversely affect the sugar industry in the Province as the mills will have short supply of cane if 50 per cent of their sugarcane acreage is turned to the cultivation of food crops. This results in a decreased output of sugar in Bombay. But in the present context of grave food shortage in the country, this appears to be inevitable, and the industry must get reconciled to it, as long as the emergency lasts.

Progress of Distilleries in Bombay

Although the first Indian-made distillery was established in the Bombay Province, the development of industrial alcohol did not receive proper encouragement from the Provincial Excise Department. It has been the feeling of the industry that as the Government Central Distillery run by the Excise Department at Nasik was mostly producing potable alcohol, the development of private distilleries in the Province has been neglected. The industry also expected that with the establishment of popular Ministries, prompt action would be taken by the Provincial Government to encourage the use of industrial alcohol 95-96 per cent and to develop its further production until power alcohol units were fitted up and full arrangements were made for the use of the same. Even in the face of acute shortage of petrol and crude oil, the use of denatured spirit is handicapped by various restrictions due to the enforcement of the policy of prohibition. The Bombay Province alone can supply about 15,00,000 gallons of power alcohol annually from molasses and India as a whole can produce about 22 million gallons of industrial or power alcohol from the 4,00,000 tons of molasses produced by factories. The industry hopes that Government will take suitable action for development of power alcohol manufacture in the Province at an early date, particularly as it might solve the problem of transport to some extent, by its admixture with petrol.

Confectionery Manufacture in Bombay

In any cursory survey of the progress of the sugar industry in the Bombay-Deccan, special mention must be made of the recent experiments that are being made for the manufacture of sugarcandy in India. A sugarcandy research scheme, financed by the Indian Council of Agricultural Research is in progress at Ravalgaon (Nasik District) for the

last four years. Outstanding improvements such as the use of steam and modern machinery have been introduced in the process of the manufacture of sugarcandy. The plant at Ravalgaon is the first of its kind in India and in quality some of the varieties of candy produced equal the imported sugarcandy. Arrangements are also being made to train chemists and Karigars intending to be employed in this industry.

There are very few mills in India capable and equipped with the necessary plant for the production of sugarcandy which is very much in demand in this country and is largely imported from abroad. The Ravalgaon Sugar Farm has made efforts to produce good variety and types of sugarcandy crystal. We suggest that sugar mills in other provinces should also explore avenues for producing sugarcandy in the years to come.

Compulsory Acreage under Food in Bombay

The Indian Sugar Mills' Association passed a resolution at its Annual meeting held at New Delhi in November 1947, urging upon the Government of Bombay the necessity of reconsideration and revision of its policy in regard to compulsory acreage under foodcrops equal to the acreage under cane, even in the factory areas, out of regard for increased production of sugar in factories. The full text of the resolution is given in the earlier portion of the *Annual*. (*Vide* page xxxviii.)

A Note on the Sugar Production in other areas

During the year 1947-48, the production of sugar in West Bengal and Assam increased to 7,000 tons as against 4,400 tons in 1946-47. The number of factories which crushed was 3 in 1947-48 as against 2 in the previous season. The quantity of cane crushed was higher at 70,200 tons in 1947-48, as compared with 45,800 tons in 1946-47.

In East Punjab, only one factory crushed cane, the production of sugar being 11,000 tons in 1947-48, as against 8,000 tons in 1946-47. The production in Indian States increased from 98,300 tons in 1946-47 to 1,36,500 tons in 1947-48.

Importance of Sugar Industry in the National Economy

We have already referred to the problems besetting the industry during 1947-48 and 1948-49. The production of factory sugar during 1947-48, as has been seen above, registered a fairly rapid rise as compared with the production of the three previous seasons, the production in 1947-48 being 10,56,700 tons. The acreage under cane has also increased from 32,59,000 acres to 35,83,000 acres in 1947-48, for the Indian Union (including Hyderabad State).

Reduction in Sugar Prices Essential

The fixation of the price of sugar at a high level during the 1947-48 season and the decontrol of sugar with effect from the commencement of the 1947-48 crushing season have been largely responsible for this increased production of sugar and the larger area under cane. It would be interesting to note also that there is potential capacity at present in the country for producing about 15,00,000 tons of sugar if there is the will and determination and suitable policy in this behalf. But there seems to be little point in reaching this production, even if it is possible

to do so, at the present time, unless the price of sugar is reduced, for at the present price it is not possible for the country to consume so much sugar, and if the price of sugar is to be reduced, the price of sugarcane will have to be reduced principally, for that is the largest single component of the cost of sugar which works out at the present price of sugar, to about 60 per cent. There is no doubt that the consumption of sugar is curtailed as a result of the abnormal increase in the price of sugar, which places it beyond the reach of a large number of people and becomes to a certain extent an article of luxury to be indulged in by a few who can afford it. It is, therefore, the imperative duty of both the industry and of the Government to devise measures whereby the price of sugar can be brought down reasonably without delay. Unless the price of sugar is brought down in parity with the world prices, it will be difficult for India to export sugar to even adjacent countries which are normally dependent upon India for their supplies of sugar. India would thus miss an excellent opportunity of capturing some of these near markets for her sugar, unless she rises to the occasion immediately.

There is at the present time no serious competition particularly as the sugar industry in Java is yet crippled and might yet take a couple of years before the industry is rehabilitated to anywhere near its former dimensions, and India should utilise this opportunity for expanding its sugar trade in these markets, both because it will be helpful to the country in earning more of foreign exchange and be of assistance to Indian agriculture. The prosperity of nearly two crores of agriculturists is linked up with the welfare and development of the sugar industry, particularly as sugarcane cultivators in India are mostly small holding peasants with meagre incomes. The industry, particularly the manufacture of *gur*, is spread in rural areas in the country, is seasonal in character and finds employment for a large number of workers in surroundings far more congenial than in the case of several factories huddled up in cities and towns, and taking into consideration these factors and also the fact that the development of the industry which prevents an annual drain of about 16 crores of rupees paid to foreign countries before the establishment of this industry in the country, the extreme importance of the sugar industry in the national economy of India can easily be appreciated. Indeed the orderly development and growth of the industry for the welfare of our rural economy cannot also be over-emphasised. The rapid progress of this industry in a comparatively short period to its position of eminence, the possibility of production of sugar from the existing equipment in quantities larger than the present estimated consumption and the invaluable contribution which the industry has made during the most trying period of the war, are the highlights of the history of this national industry of the country. It cannot be gainsaid that the development of this industry has been both romantic and well-timed, for had it not been for the existence of this industry in its present size and form before the world war II, India would have had to suffer severe privation of sugar for several years.

The industry is also responsible for the employment of national capital estimated at about Rs. 33 crores, finds occupation for no less than 3,000 University men, 1,30,000 labourers and a large number of transport workers all over the country.

Total Value of Production of Sugar and Gur

The total value of the production of sugar and *gur* in India in 1946-47 has been estimated at over Rs. 200 crores which compares well with the largest national industry of the country, namely, cotton textiles, the total value of the production of which is estimated to be about Rs. 600 crores. Such an industry is therefore vital and indispensable and it should be the duty of every well-wisher of the country to create conditions for the expansion and further progress of the industry so that in course of time it may be possible for it to supply at least double the quantity of sugar and *gur* which will be required for meeting the nutritive requirements of the people, and indeed it might be possible to seek outlets for export of sugar to adjacent countries.

Increase in Yield of Cane per ton Essential

With the National Government at the helm of affairs after achievement of complete independence with effect from 15th August 1947, a bright future for such a vital industry should be assured. It is an industry which has an unique connection with agriculture, and indeed is an integral part of India's agricultural economy. It was in appreciation of this unique feature of this industry that the Tariff Board decided in 1947 to recommend continuance of the present protection to the industry, although in the case of three other important industries inquired into by the Board at the same time, namely, Cotton Textiles, Steel and Paper, it was decided not to recommend continuance of protective duties any longer. The different conclusion arrived at by the Board in respect of the sugar industry was due to the appreciation of this unique feature of the industry, namely, its being an integral part of the agricultural economy which would be seriously upset if there was any possibility of import of sugar from foreign countries due to its cheapness as compared with the price of sugar in the country. The only way in which this situation, namely, dependence upon tariff wall, to prevent imports of foreign sugar, can be remedied, is by striving to bring about a reduction in the cost of cultivation of cane per unit of production. We hope that the Indian Central Sugarcane Committee which is a body principally charged with this matter will redouble its efforts in this direction so that within a measurable period of time this may be achieved. *In the meanwhile, we feel that adequate protective duties have to continue, as at present, as otherwise it would have very adverse repercussions on Indian agriculture generally, and sugarcane cultivation particularly, all over the country.* We, therefore see no other alternative for the Tariff Board and the Government but to continue protection to the industry for the next decade or two at any rate. *It will be the duty of the Government to devise measures for a rapid improvement in Indian agriculture, which would lead to increased production of cane per acre comparable with the yield in Java, for instance, of 56 tons per acre, in place of the present average yield in India of about 14 tons.* A great leeway is to be made up but it need not discourage the authorities. Several investigations made in the past have shown that if proper irrigation facilities are provided, better seeds are made available, improved methods of cultivation are administered with suitable manure, it will be possible to increase the average yield to about 30 tons per acre *before long.*

Translation of Research to Cultivators' fields

There are areas in parts of India where the present average production is in the vicinity of 40 to 50 or 60 tons per acre, and which again are capable of further improvement. It is also fortunate that Government have decided to provide increased funds, in accordance with the recommendations of the Tariff Board, 1947, at the rate of 4 annas per cwt. out of the excise duty on sugar, for research work. The funds thus available would amount to Rs. 50 or 52 lakhs per year, and if this amount is carefully utilised by drawing up suitable long-term and short-term plans, an improvement in the cultivation of cane can be achieved. What is of importance, however, in relation to such research work is that means should exist whereby the results of the research should be converted as smoothly and effectively into productive processes. It is not enough merely to conduct scientific research, but it is essential that the benefits of such research should be translated effectively to the cultivators' fields. We would like to emphasize this point over and over again with all the emphasis at our command, that the mere adoption of some scientific methods of production, or even large-scale expansion of scientific and industrial research will not of itself raise the rate of production to a level which is necessitated by our present requirements. There ought to be a proper liaison between Government, industry and agriculture, in order to ensure the full utilisation of technical research at the earliest time.

Question of Protection to the industry after 1949

Before we come to the question of continuance of protection to the sugar industry after 31st March 1949, when the present protection expires, it will be useful to give a few details in regard to the inquiry of the Tariff Board into this industry which was instituted in January 1947.

Tariff Board (Sugar) Enquiry, 1947

The Tariff Board, for the purposes of this inquiry, consisted of Mr. (then Sir) R. K. Shanmukham Chetty, President, Mr. C. C. Desai and Dr. H. L. Dey, Members. We might add that Mr. M. P. Gandhi, Editor of this *Annual*, had the honour of being appointed as Technical Adviser to the Tariff Board in 1947, for this inquiry.

Protection of the Industry since 1932—Tariff Board Enquiry

As is well known, the sugar industry has been a protected industry since 1932, when the Sugar Industry (Protection) Act was passed. Since then there was one more Tariff Board enquiry in the case of this industry in 1937, and the protective duties enjoyed by this industry since 1939, were continued from year to year by continuation acts in war time, the last extension being accorded to it by the Legislature in April 1946, for a period of one year ending on 31st March 1947. On this occasion, an undertaking was given by the Government that in the meantime the case of the industry would be examined before a final decision was made in regard to the further extension of protection to the industry. It was also suggested that this matter would be considered by the Tariff Board. Unfortunately there was some delay between the debate in the Legislature in 1946 and the reference of the case to

the Tariff Board in December 1946, with the result that it was not possible for the Tariff Board to undertake a full-dressed enquiry into the subject and to submit its report in time for the Government of India to take action before the present protection expired on the 31st March 1947. The Tariff Board therefore undertook a summary examination of the case of the industry in January 1947 and submitted its report to the Government in February 1947. The resolution of the Government in announcing this enquiry stated that in the present abnormal conditions, it would not be possible to formulate a long-term tariff policy in respect of well-established industries like sugar, paper, cotton textiles, and iron and steel, and that the Tariff Board was directed to hold a summary enquiry into this (as also others) industry and advise the Government whether in the present circumstances protection at the existing or at different scale should be granted *for a further year* after *the 31st March 1947.*

Alternatives before the Tariff Board of 1947

In accordance with the above resolution, the Tariff Board invited views from interested parties in January 1947, and then convened a conference of the interests concerned at Bombay on the 12th and 13th February 1947. It was pointed out to this conference by the Tariff Board that the industry had attained the present position under the shelter of protection which it had enjoyed during the last 15 years, and especially during the last 7 years, when, as a result of abnormal conditions regarding short supplies, lack of competition from abroad, etc. it had been placed in an exceptionally strong and favourable position. These conditions still persist and the question may, therefore, be asked, observed the Tariff Board, whether the industry was not in a position to stand on its own legs without any protection or assistance from the State. The Tariff Board also observed that it was urged in the Assembly debates that "protection should ordinarily be regarded as a temporary expedient intended to enable a struggling or distressed industry to survive foreign competition either in the initial stages or during a period of depression," and that one of the conditions to justify protection was that the industry would within a reasonable time be in a position to dispense with it. The Tariff Board observed that it had an open mind on the subject and was prepared to consider the whole case in the light of the views put before it by the various interests concerned. It observed, however, that as the problem appeared to it at the moment, it was capable of being resolved in any of the following alternatives or a suitable combination of some of these alternatives. The alternatives were :—

(i) Maintaining the present protection for a further period of one year ending March 31, 1948, and stipulating the institution of a Tariff Board inquiry into the industry in the latter half of 1947 if conditions are expected to be fairly normal by then.

(ii) Maintaining the present position regarding protection for a further period of one year but keeping the protective duties in abeyance, partially or wholly, through an executive order under the Sea Customs Act or the Indian Tariff Act, subject to institution of a Tariff Inquiry in the latter half of 1947 to determine the nature of protection, if any, required for the industry as a permanent measure.

(iii) Holding that the industry has failed to make out a case for continuance of protection which should therefore be withdrawn, leaving it to Government to impose such revenue duties as may be decided upon purely on budgetary considerations.

The Tariff Board also pointed out that the burden of proving that protection was necessary under the conditions existing rested heavily on the industry and also observed that protection had to be justified on the following principles :

(i) that there exists competition from which the indigenous industry requires protection ;

(ii) that the protection required is temporary and will be dispensed with within a reasonable period ;

(iii) that the cost to the consumer arising from the production is reduced to the minimum ; and

(iv) that the industry is run on sound business lines.

We will now consider briefly the viewpoints put forward by the various interests who appeared before the Board.

The Case of the Industry

The industry emphatically pointed out that the time for the "de-protection" of the industry had not yet arrived. *It was also urged* that the industry had shown a phenomenal progress in so far as its output was concerned, that considerable advance had also been made in respect of its manufacturing efficiency, but *the initial handicap of the industry on account of the comparatively low quality and high cost of the principal raw material, namely, sugarcane, still continues practically the same as before. The industry also observed with a good deal of emphasis that if this original handicap in respect of sugarcane still remained, the responsibility for such a state of affairs should be laid on Government rather than on the industry. It was also added that protection in the case of the sugar industry was intended not so much for the sake of the manufacturing industry as for the agricultural side of it, and that so long as production of sugarcane in India remained inefficient as compared with that of rival countries like Java, Cuba, Hawaii, etc.—and it was likely to remain so for many years to come—protection to the industry must be maintained.* It was stated that although there had not been competition from imports in recent years and at the present time, there were clear indications that the sugar industry in Java and other countries was being rapidly rehabilitated, as a result of which imports of sugar might come into the country at competitive prices at any time. It was also urged that so long as the cultivation of sugarcane in Java continued to be comparatively superior to that in India on account of the fact that sugarcane was produced in Java by the factories themselves under a highly organised and scientific system, while its cultivation in India for the major part continued to be carried by small farmers without proper resources and organisation, the difference in the quality and cost of sugarcane between the two countries was bond to remain great, thereby materially affecting the competitive capacity of the Indian sugar industry. The industry claimed that many of the units of the sugar industry in India could manufacture sugar equally as cheaply as Java, provided they got sugarcane of high quality at as low a price as in Java. It was also urged

that although protection had been in existence normally for a period of 15 years, the last 6 or 7 years were abnormal in that the industry had little chance to import machinery in order to expand its productive capacity and improve its efficiency, or carry on experiments in the utilisation of by-products. It was further contended that the industry had been severely controlled during the last few years in respect of its price and profits and that the industry did not have any chance to put by adequate reserves for post-war expansion and improvement.

In view of these special and abnormal handicaps from which the industry had suffered and due to which it had not been possible to strengthen its financial position and improve its manufacturing efficiency during war time, the industry urged that it was entitled to the continuance of protection.

The industry also stated that protection was no burden to the consumers as the duty was practically ineffective, and there were no imports.

The Indian Sugar Syndicate drew the attention of the Board to the fact that the expansion of the sugar industry to achieve the target figure of 18,00,000 tons of sugar fixed by the Government of India, would require investment of several crores of rupees, and if protection is taken away, the confidence of the entrepreneurs will be shaken and the expansion envisaged by the Government of India will be handicapped considerably.

U.P. and Bihar Governments' View for continuance of Protection

The Chairman, U.P. & Bihar Sugar Commission, who represented the Governments of U.P. and Bihar, observed that the objective of protection in this case should indeed be not merely to save the industry from foreign competition, but also to make the country self-sufficient in respect of sugar. For this purpose, he stated it was necessary to attract capital for the expansion of the industry to a considerable extent. He feared that if these duties were removed now, capital would become shy and there would be no expansion of the industry either by replacement of the present plants or by setting up of new factories, and such a state of affairs would cripple the industry in that the objective of self-sufficiency of the country in respect of supply of sugar would be defeated. He concluded by saying that *the views of both the U.P. and Bihar Governments, whom he represented, were that the present protective duties should be continued for at least another year*, and that the proper time for a general enquiry into this question might arrive at the end of 1949 or at the beginning of 1950.

The importers observed that as the present c.i.f. price of sugar was about Rs. 1,100 per ton, which was roughly equal to about double the price of Indian sugar, there was no need for protection to the industry at the present time. They also pointed out that the sugar position was still tight, there being a shortage of over 30 per cent in relation to demand, and that Java would not be able to increase her production so as to have an exportable surplus during the next 4 or 5 years.

Sugar Controller's plea for Continuance of Protection

The then Sugar Controller for India, Mr. N. T. Mone, referred to the magnificent progress of the Indian sugar industry and stated that the efficiency of her factories was comparable to the factories of other countries. He referred to the serious handicaps of the sugar industry during the war years due to the rise in the cost of raw material, and observed that the cost of sugarcane which forms 60 per cent of the total cost of production was steadily increasing.* He also referred to the fact that the plants had been overworked and repairs and renewals were not possible owing to non-availability of machinery and its high cost. He also admitted the fact that the factories had not been able to lay by any reserves, because their profits, unlike other controlled industries, had been very rigidly controlled.

The Sugar Controller also explained the method of price fixing and admitted that a number of sugar factories had not been able to obtain a reasonable profit during recent years, on the prices fixed. Due to this, factories cannot be blamed if no visible progress was made during the war years. He urged that the industry could not be blamed for doing nothing. He also referred to the handicap of the cane-grower, in whose interest equally the protection was given, owing to the lack of cattle, irrigation facilities, fertilisers, agricultural implements, etc. Cane research had not made any appreciable headway, with the result that the yield of cane and recovery of sugar from it had remained more or less static. The Sugar Controller laid great stress on the fact that there was a big gap between production and requirements which could not be bridged except under a long-term plan. India had, therefore, become a fruitful ground for foreign adventurers, when opportunity came. To improve the situation, plans were on hand which required huge capital costs. *The cost of raw material and consequently, the price of sugar, was bound to remain high in India.* On the other hand, in other countries the world's sugar position was found to be fast recovering and there was every possibility that within the next 2 or 3 years world production might become equal to the demand. Java's sugar industry could not remain dormant for long. It was well known that in pre-war time Java sugar could be landed on Indian shores at a ridiculously low price of Rs. 2-7-0 per maund. Even if Java's costs had gone up, it would seem that they would not be anything comparable to the Indian costs. *This was, therefore, according to him, just the time when the industry and the cane-grower, now that the period of protection had expired, should be reassured that protection would continue and to the extent required, so that there was no fear of any foreign competition.* He observed that anything less than this assurance would be futile to progress.

The Sugar Controller also added that the sugar industry was closely linked up with the agricultural economy of this country and was of great national importance requiring careful nourishing. *He suggested that it must be made unequivocally clear to the industry and cane-grower alike that it was the policy of the Government to continue protection almost indefinitely.* According to him the most advisable course was to maintain the *status quo* even though protection

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* As pointed out in the "Sugar Industry at a Glance", the cost of sugarcane in 1947 formed 70 per cent of the cost of sugar.

may be of theoretical importance owing to the existence of complete control over sugar, whether imported or locally produced. Controls, he pointed out, were, however, war-time measures and no one could foresee what form sugar control might ultimately take. There might or might not be price control which Government might achieve indirectly by undertaking proper planning of crops. He pointed out that the Board should, therefore, not be influenced by the fact that complete control existed today, making protection a matter of mere academic importance. The question whether protective duty should be lowered or maintained could not be answered in the absence of necessary data. He observed, however, that *it should certainly not be withdrawn owing to the repercussions it would have on the industry and cane-grower. He emphasised that the continuance of protection at this critical time would have a steadying effect upon all concerned and would also act as a powerful check against dumping of sugar by foreign imports.* The Sugar Controller also stated that in 1946, after making a summary inquiry on the material available, the Government of India had decided to continue protection upon a fuller enquiry. He did not see how the situation this year (1947) had changed in any way and it appeared to him, therefore, that protection should be continued.

Last of all, and not the least, the Sugar Controller observed that it might be difficult, owing to international pressure, to revive the lost ground, if once the position of vantage was given up either by withdrawing protection or holding it in abeyance. There seemed to be no obvious advantage in doing so. He, therefore, suggested that continuance of protection might do some positive good, and he added that if imports were urgently required, as they were at the present time to meet the gap between supply and demand, it was always open to Government to remit protective duties.

In February 1947, the Indian Central Sugarcane Committee also recommended continuance of protection *for a long time to come* in the interests of the developing industry.

Reasoning of the Tariff Board of 1947

The Tariff Board considered carefully the progress made by the industry since the beginning of the policy of protection. It referred to the report of the Sugar Panel appointed by the Department of Planning and Development of the Government of India, which estimated the present capacity of the industry at 10,80,000 tons. The Panel also estimated that by 1950 the country's requirement of sugar would be 15,50,000 tons, and after providing for export of 50,000 tons to neighbouring countries, recommended a target production of 16,00,000 tons for the period ending 1950. For this purpose, it recommended the expansion of existing smaller units to a capacity of 800 tons and the addition of 20 new units. The Sugar Controller, however, estimated the demand of sugar in the next three years to be of the order of 18,00,000 tons and he suggested the installation of some 45 new units in the industry. (The Government of India also considered the target production of 16,00,000 tons as recommended by the Sugar Panel to be too low and have increased it to 18,50,000 tons and sanctioned additional 25 new units in 1947). The Tariff Board also referred to the progress made by the industry in the recovery of sugar from sugarcane, which has gone up from 8.70 per cent in 1934 to 10.2 per cent in 1944-

45. The Tariff Board examined at great length the question of the quality of cane and came to the conclusion that there was yet great scope for improvement in the quality of cane regarding its sucrose content, and also the yield per acre. The Tariff Board was convinced that intensive research which was necessary would necessitate large-scale public expense on the agricultural side. They were informed that the Government of India were placing at the disposal of the Indian Central Sugarcane Committee funds at the rate of 1 anna per cwt. from the excise duty on sugar, and had also made in 1945 a special grant of Rs. 125 lacs to the Committee for a five-year research programme. They felt, however, that India had to traverse a very long distance yet in regard to the planning for the future improvement of the sugar industry, particularly in its agricultural aspects, to reach anywhere near the same level of efficiency as prevails in Java. The Tariff Board stated that in 1936-37 the yield of sugarcane per acre in Java was 56.2 tons as compared with 15.6 tons in India, and that the cost of cane in Java in 1937 was stated to be one anna per maund as compared with 4 to 5 annas per maund in U.P. and Bihar, 7 annas per maund in Bengal, and 7 to 12 annas per maund in Bombay in the same year.

More Funds for Research recommended by Tariff Board

In view of the great leeway to be made up before India can achieve a parity of competitive efficiency with Java and other foreign countries, the Tariff Board endorsed the recommendation of the Sugar Panel that the Central Government's grant to the Indian Central Sugarcane Committee of 1 anna per cwt. of sugar from the excise duty, should be increased to 4 annas per cwt.

In our *Annuals* (also *vide* Preface to our 1945-46 *Annual*) we have been emphasising for the last few years the necessity of the Government of India granting a larger amount of money for purposes of research and we are pleased that the Tariff Board has also seen its way to make this recommendation. We are pleased to note that the Government of India have accepted this recommendation of the Tariff Board and have decided to place a larger amount of money at the disposal of the Indian Central Sugarcane Committee for augmenting work in the direction of improvement of the industry both in its agricultural and manufacturing aspects.

On the basis of production of 10,00,000 tons of sugar by the factories in India, the amount available annually for such expenditure will be Rs. 50,00,000 at the rate of Rs. 5 per ton, with effect from 1947-48.

World's Sugar Production—Tariff Board's Idea in 1947

The Tariff Board also considered the world's sugar production and noted that the world's production of sugar of 23,000,000 tons in 1945-46 was 6,000,000 tons, or 21 per cent less than the normal pre-war production of 29,000,000 tons. It was expected that production would rise to about 27,000,000 tons in 1947, but this would depend upon the pace of recovery in the liberated countries. The Tariff Board considered it possible that production might be restored to the normal pre-war level of 30 million tons by 1949. In regard to the question of imports, the Tariff Board held the view, on a review of the position of the world markets, that the present shortage of sugar in the world as a whole may continue

for another year and expected that the position may become easier towards the end of 1947-48.

Case for Continuance of Protection in 1947

The Tariff Board first addressed itself to the question as to whether there was any danger at the present time of imports coming into the country at prices lower than the price of sugar in India, and came to the conclusion that under the conditions of today, the Indian Sugar Industry need not fear any competition from imports coming at a lower price. Although in some countries of the world the controlled price of sugar was lower than the price in India, the Tariff Board held the view that there was little likelihood of such imports being sold in the country at prices lower than the price of indigenous sugar, even if such imports were landed in the country at a lower price.

This would be the position if there were no control of sugar in the country, and so long as control continues there must, of course, be a uniform price for all sugar, imported or indigenous. Consequently, it may be argued, observed the Tariff Board, that no harm would be done to the sugar industry if protection were withdrawn for the time being. But the Tariff Board stated that one must not lose sight of the fact that the present world position of sugar and existing levels of sugar prices in the world were abnormal and were likely to change materially in the next two years or so. When political stability was restored, it would be possible for Java and other main sugar producing countries to increase their output and possibly reduce their cost of production within a year or two, and there would then be a possibility of imports of sugar coming into the country in fairly substantial quantities, and at lower prices. The Tariff Board of 1937 estimated the fair selling price (inclusive of excise duty) of sugar in India at Rs. 8-5-4 per maund. The present price of sugar in the country is Rs. 20-14-0 ex-factory in the main sugar producing areas. This increase of approximately Rs. 12-8-8 per maund is to be largely accounted for by an increase in the price of cane from Re. 0-5-6 to Re. 1-4-0 per maund, and an appreciable rise in wages and salaries, in the prices of other materials, and also a rise in the excise duty on sugar from Re. 1-7-6 per maund to Rs. 2-3-3 per maund. The c.i.f. price of Java sugar in 1937 was estimated by the Tariff Board at Rs. 2-7-0 per maund and in 1939 by the Government of India, Commerce Department, at between Rs. 3-8-0 and Rs. 4-3-8 per maund. Even if we take the highest of these figures, i.e. Rs. 4-3-8 per maund, the c.i.f. price of Java sugar must now rise at least 5 times as compared with what it was in 1939, in order to become as high as the present price of sugar in India. Should the c.i.f. price of Java sugar be higher than the 1939 figure by as much as 200 or 300 per cent, even then it would be possible for Java sugar to undercut Indian sugar by a fairly big margin. This is one side of the picture.

Possible Increase in Price of Sugar

Looking to the other side, namely, the possible variation of sugar price in India, it does not seem probable that the price will go down in the near future. The price of sugarcane and the price of sugar in the country have gone up continuously during the last few years. The price of sugar rose from Rs. 11-9-0 per maund in 1941 to Rs. 13 per maund in 1942, Rs. 14-8-0 per maund in 1943, Rs. 16-4-0 per maund in 1944 and

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Rs. 20-14-0 per maund in 1946. It is not improbable that this price may go still higher in the near future. For one thing, it is reported that the sugarcane producers in the U.P. and Bihar were not satisfied with the price of Re. 1-4-0 per maund of sugarcane, in 1946-47 and were demanding a price of Rs. 2 per maund. The Sugar Controller has furnished the Tariff Board with a statement of index numbers of prices from which it could be found that the price of sugarcane in 1946 was much below parity with the prices of wheat and rice. Thus, taking 100 as the base price of each of the three articles in August 1939, the index number of sugarcane rose to only 205 in July 1946, as compared with 632 for wheat and 324 for rice in the same month. If the prices of wheat and rice continue to rule at their present levels, it might be necessary to raise the price of sugarcane still further. Besides, there was strong demand from labour for increase in wages and other amenities. In the light of these tendencies, the Tariff Board observed that the price of sugar in India was not likely to come down in the near future. On the contrary, it was probable that it would go up. The Tariff Board, therefore, came to the conclusion that having regard to the present price of sugar in India and the probability of further increase in that price, and taking into consideration the big gap lying between the Indian price and the possible c.i.f. price of Java sugar, the Indian sugar industry might run the risk of being undercut by lower priced imports of Java (or other foreign) sugar after one or two years.

1947 Board's Recommendation for Continuance of Protection

The Tariff Board observed that there were no imports of sugar into the country during the last six years, and that during the whole of this period, therefore, the present protective duty had been practically ineffective, nor had it imposed any burden on the consumer. The Tariff Board also stated that no sizable quantities of sugar are likely to be imported into the country during the next 12 months or so, and that such quantities of imports as might be available were likely to come at a price much higher than the internal price of sugar in the country. It would follow that the present protection was likely to continue to remain unnecessary for a further period of 12 or 18 months from now (March 1947). In these circumstances, it might have been thought appropriate to terminate the present protection. But as indicated earlier in their report, the world sugar industry was likely to be rehabilitated and its production stepped up to normal pre-war levels in a period of 18 months or two years. It was therefore probable that competition in the sugar industry might begin again in about two years' time. In such an event, it would also be possible for imports to come into the country in appreciable quantities so as to compete with Indian sugar. It was not possible just then to anticipate what the world price of sugar was likely to be in about two years' time, because it would depend partly on the post-war cost of production of sugar in other countries and partly on the general currency and price policy followed in those countries. The fact, however, remained that in 1937-39, the c.i.f. price of Java sugar was estimated to have varied between Rs. 2-7-0 per maund and Rs. 4-3-8 per maund. Taking this important factor into consideration, the Tariff Board observed that they did not see any reason to think that the c.i.f. price of Java sugar might rise to as high a figure as the present price of sugar in India, namely, Rs. 20-14-0 per maund ex-factory. Java was India's main competitor in the sugar industry in the past and is

likely to remain, at any rate potentially, one of the main competitors in the future, with a possible price level for sugar as indicated above. It was, therefore, probable that the Indian sugar industry would again require protection against imports of sugar from Java in about two years' time. There might also be possibly competition in the Indian sugar trade by imports of sugar from other countries as well when the world sugar industry would have achieved its full production. Since, in any case, there was, in their view, a definite probability of competition in the sugar trade setting in within a period of about two years, when the question of protection to the Indian sugar industry might again become important, the Tariff Board did not think it desirable that the existing protection, though unnecessary and ineffective at the present time, should be terminated.

Protection to the Sugar Industry is Protection to Indian Agriculture

The Tariff Board also stated that their above conclusion was reinforced by the further fact *that protection of the sugar industry was in effect, protection of the sugarcane cultivation in India, which was an integral part of India's agricultural economy.* They, therefore, recommended continuance of the present protection for a further period of one year. The Tariff Board also expressed the opinion that since *the Indian sugar industry was likely to require protection for some time to come,* a detailed inquiry into the extent of protection necessary should be undertaken when conditions both in India and abroad became more normal. When they reported (March 1947) the Tariff Board did not expect that such normality would be restored before the end of 1948.

The Tariff Board also observed that although it was precluded by the terms of its reference from recommending the continuance of the existing protection for more than a year, *they wished to draw the attention of Government to the desirability of extending the present protection for a period of two years ending 31st March 1949, and instituting a tariff inquiry during the latter half of 1948.*

The Tariff Board also recommended that the possibilities of establishing industries subsidiary to the sugar industry should be properly investigated. They stated that they attached great importance to this recommendation and suggested that all facilities should be given to the sugar factories to establish these subsidiary industries.

Government's Resolution of March 1947

We give below the full text of the Resolution of the Government of India dated the 29th March 1947 containing their decisions on the recommendations made by the Tariff Board :

The following is a Resolution [No. 218-T(25)|47, dated the 29th March 1947] of the Government of India in the Department of Commerce :—

In their Resolution No. 28-T(6)|46, dated the 20th January 1947, in the Department of Commerce, the Government of India requested the Tariff Board to hold a summary enquiry and advise Government whether, in the present circumstances, protection at the existing or at a different scale should be granted for a further year after the 31st March 1947, to the sugar industry.

The Board, having conducted an enquiry, has submitted its report. Its main recommendations are as follows :—

(1) The present Central Government grant to the Indian Central Sugarcane Committee of 1 anna per cwt. of sugar from the Excise Duty should be increased to 4 annas per cwt.

(2) All facilities should be given to the sugar factories to establish subsidiary industries.

(3) The present protective duties should be continued for a further period of one year.

The Government of India accept the recommendation that the existing protective duties should be continued for a further period of one year ending the *31st March 1948*. The necessary legislation to give effect to this decision will be undertaken as soon as possible.

The Government of India also accept recommendations (1) and (2) of the Board.

1945-46 Annual's Recommendations for Protection endorsed by Tariff Board

It has been a matter of great satisfaction to us to find that the Tariff Board came to the conclusion that protection to the industry should be continued at the present time. In this context we wish to remind our readers that in the preface to our 1945-46 Sugar Industry *Annual* (published in November 1946), we had referred to this question in great detail and had suggested after a careful consideration of the position that, in our view, protection should be continued to the industry at the present level and for a further period of 3 years during which time the Tariff Board could conduct an inquiry, as conditions were likely to be more normal in the year 1948. We are glad to find that the Tariff Board has exactly endorsed our recommendation and has come to the identical conclusion that protection should be continued till 31st March 1949, and that a tariff inquiry should be instituted in the latter half of 1948.

Provincial Governments and Sugarcane Committee favour Continuance of Protection

The Government of India announced their decision to continue protection for a period of one year until the 31st March 1949. This was expected when they made an announcement in March 1948 and was suggested by the Tariff Board in their report.

The Tariff Board have now been ordered to conduct an inquiry into the desirability of continuance of protection to the industry after the 31st March 1949, and the inquiry is being undertaken at the present time (November 1948). Memoranda have been submitted to the Tariff Board by the various interests in the matter, including the industry. We wish to point out here, however, that the main applicant for protection to the sugar industry is not, as is normally the case, the industry itself, but it is the *Departments of Agriculture of the Provincial Governments and the Government of India who are the principal applicants for protection. It has been made quite clear that if protection is needed for the sugar industry, it is almost entirely for the sake of Indian cane cultivation which is in a very backward state,* and it is due to the general backwardness of Indian agriculture,

that it has been necessary to ask for continuance of protection. The Governments of U.P. and Bihar expressed categorically before the Tariff Board of 1947, the necessity of continuance of protection to the industry in the interest of the agricultural economy of the country. The Indian Central Sugarcane Committee also expressed similar views, and as we go to press, we learn that the Indian Central Sugarcane Committee at its 10th meeting held at New Delhi on the 9th October 1948, under the Chairmanship of Sir Datar Singh, Vice-Chairman of the Indian Council of Agricultural Research, has again passed a resolution that protection should be continued to the industry for the time being.

Protection must continue in National Interest for a Long Time

It seems difficult to us to understand how with the present backwardness of Indian agriculture in relation to the agriculture in other countries, it will be possible to do away with tariff protection for a good many years to come. So long, therefore, as Indian agriculture remains in its present backward state and so long as as it is not possible to effect a radical improvement in the yield of cane per acre in India, as also its quality, and a reduction in the cost of production per acre and bring it on a level with the conditions in Java or other important sugar producing countries of the world, like Hawaii or Cuba, we are convinced that protection to the sugar industry, *which is in essence protection to sugarcane cultivation and Indian agriculture,* will have to be continued by the Government of India. *We feel that even with the utmost expedition and embarkation upon plans of comprehensive research work in this direction, it will take much more than a decade for Indian agriculture to reach anywhere near conditions in Java, and so long as our efficiency in the cultivation of cane does not go up to that or fairly comparable level, protection will have to be maintained at the present level, if not even on a higher level, for we cannot visualise with equanimity the possibility of allowing inroads of foreign sugar in the country, at a price lower than the price of indigenous sugar in the Indian market. It will simply be calamitous, and will injure the fabric of Indian agriculture vitally.*

With the price of sugar in the country regulated by Government, it is also idle to suggest that foreign sugar, if available cheaply, should be allowed to enter the country (except for meeting a shortage in the country), out of regard for the interest of consumers, or of agriculturists, or even of labour, which is interested in the functioning of this industry smoothly. The interests of the consumers cannot be really different from the interests of the agriculturists, and even if they are, they should be subordinated to the interests of the agriculturists whose stake in the industry is ten times greater than that of the consumers. *The industry must be maintained intact and unimpaired. The necessity of the continuance of protection for a long period is due not to any shortcoming in the industry which, indeed, has done extremely well, or even in the agriculturist, but in the general lack of efficiency of Indian agriculture for which the responsibility is of no one else than the Government itself.* And the remedy for this lies in undertaking swift research work, pending the successful results of which, imports of sugar should be prevented either by protective duty, or by treaties or otherwise. The industry in various countries is being maintained

at a heavy cost, e.g. U.K., Russia, Germany, out of regard for national safety and for strategic reasons, and in India the present conditions warrant its maintenance unimpaired.

Great Agricultural Improvement essential before Protection can be Removed

We are pleased to find that the Tariff Board of 1947 noticed the essential difference between the Indian sugar industry and other industries like, for instance, cotton, textile and steel, namely, the preponderating cost of the raw material in the manufacture of the final product. *The cost of sugarcane today works out to between 60 to 70 per cent of the total cost of manufacture of sugar,* and unless it is possible to bring about an appreciable reduction in this item, which, in turn, depends upon a general improvement in the agricultural conditions in the country, it is impossible to foresee when protection to the sugar industry could be dispensed with. *The manufacturing efficiency of Indian sugar industry is fairly satisfactory and although it may be possible to effect some improvement therein, the question whether the Indian sugar industry will have to be protected in the future will depend not so much upon the efficiency of the manufacturing side, but upon the agricultural side, namely, the availability of cane at a cheap rate.* The responsibility for a general improvement in the agricultural conditions, which alone can lead to a reduction in the cost of production of cane, by increasing the yield of cane per acre and improving the quality thereof, will remain largely that of the Government, aided no doubt by the industry to such extent as is possible.

Technical Efficiency of Factories

It will be relevant to refer here to the technical efficiency of the sugar factories in India. Table No. 39 in the "Sugar Industry at a Glance" shows the technical efficiency of factories and recovery in India, as compared with various other countries.

It will be seen from that Table giving the overall reduced rates of recovery (which denotes the technical efficiency of factories), that in India the technical efficiency of the factories was 83.35% in the year 1937 and it rose to 85.04% in 1940-41. This figure of technical efficiency in India for 1940-41 is better than Natal (82.6%) and is equal to that of Mauritius (85.1%). We have, of course, much leeway to make up to reach the level of Hawaii and Formosa. In the year 1934, the recovery in India was 8.70% and in 1940-41 it rose to 9.72%. There is thus an increase of 1.02% up to 1940-41, and is higher still if recovery of 1945-46 is taken. This increase can be due to either improvement in the technical efficiency of the factories or in the quality of cane. An analysis of these figures shows that the share due to increase in factory efficiency works out to 0.18% out of a total increase of 1.02%, that is, 17.65%, while the share due to improvement in cane quality is 0.84% out of a total of 1.02% which works out to 82.35%. These figures have been taken from the Report on the Survey of Sugarcane Research prepared for the Imperial Council of Agricultural Research by Mr. N. L. Dutt, Sugarcane Expert in charge of the Coimbatore Sugar Research Station, published in 1946.

No point in Tariff Board Inquiry at this stage (1948-49)

Having adverted to the recommendations of the Tariff Board, 1947, and to the reference of the case of the industry for a further inquiry by the Tariff Board, we must state that we see no point or purpose in a further inquiry being conducted into the industry *at this stage*, as conditions today are not dissimilar from the conditions in February 1947, when the Tariff Board reported that conditions were too abnormal to permit correct appreciation and appraisal of the world situation in respect of sugar. We fully endorsed the conclusions of the 1947 Tariff Board that "the Indian sugar industry is likely to require protection for sometime to come and therefore a detailed inquiry into the question of protection necessary should be undertaken *when conditions in India become normal*".

We do not feel that conditions in the industry either in India or in the world at the present time can be characterised as normal, and we would, therefore, have preferred that the inquiry should have been postponed for sometime and that protection should have been continued by the Government of India for the next three years at least *without any further inquiry at this stage.*

An instance of the lack of stability of conditions in the industry will be provided by the fact that the minimum price of cane was fixed by the Government at Re. 0-14-0 per maund in 1945-46, Re. 1-4-0 per maund in 1946-47, and Rs. 2 per maund in 1947-48. Similarly, there has been abnormal rise in the labour charges, the minimum wages having been raised from a bare Rs. 11 per month in the sugar industry in U.P. and Bihar in 1940, to Rs. 36 per month in 1946 and Rs. 45 per month in 1948. This is in addition to several other increments and wages by way of dearness allowance and other amenities like payment during off season, payment of retainer to certain classes of workers, supply of fuel, kerosene oil, etc.

Nor is there stability in regard to wages and amenities of labour. Things are in a state of flux, wages are continually rising, new labour legislation, however welcome, means additional cost of manufacture, etc.

Prices for raw materials, stores, etc. are also not steady, and there is general lack of stabilised conditions in the country.

Anti-inflationary measures are about to be undertaken, but no one can foresee or forecast when normalcy will be restored. In any case, we feel that two years would be a safe period before which normalcy may not be expected.

The production of sugar in the world is not stabilised, neither is consumption stabilised, nor are conditions of production stabilised. Reliable information regarding present and potential production in various countries, e.g. Russia, Cuba, Peru, Brazil and Java, are not yet available ;* nor is reliable information available regarding normal and stabilized cost of production of sugar in various countries of the world. Prices of sugar are not stabilised, transport position is far from normal, currency difficulties and dollar shortage complicate the situation further in regard to trading in sugar, and the relations between various cou

* This has been discussed in subsequent pages towards the end of this /

tries of the world continue to be strained. All these factors point to the conclusion of the prevalence of abnormal conditions, and in view of this it will be difficult for the Tariff Board to obtain reliable data on which it could base its recommendations for assessing the quantum of protection required by the industry against imports of foreign sugar from Cuba or Java or Brazil or Peru.

What is more, the present tariff is in one sense ineffective and inoperative as there is no import of sugar at present. Neither does it appear likely to us that within the next 2-3 years there will be any possibility of imports from other countries, either because of absence of surplus in exporting areas, or because of currency difficulties, or because of transport situation. If, therefore, no disturbance is caused in the present arrangement and the present tariff wall is allowed to continue, it will not harm any interests whatsoever.

Internally, there is no effort to coerce the consumer by demanding higher prices, as the Government are regulating the price of sugar in consultation with the industry. There is, therefore, no possibility of the consumer being exploited so long as the Government of India regulate the price of sugar. Even assuming, for the sake of argument, that sugar would be available from foreign countries for import into India, at lower prices than obtaining in India, no authority would allow the ruination of Indian agriculture for the sake of obtaining a small quantity of sugar at a rate slightly cheaper for a short period. At the same time, measures are being implemented for a reduction in the price both of sugarcane and sugar by increased expenditure on research work. Measures of disinflationary character are also being enforced in the country with a view to bringing down the prices generally and to bring about a certain amount of normalcy in the economic situation of the country.

Protection must be continued for Five Years ending 31st March 1954

In view of such great uncertainty in regard to the situation in the country and abroad in respect of costs of production of sugar which are fluctuating, no precise data on which the Tariff Board could base their conclusions safely would be available, and in the absence of such data there is no point in any scientific inquiry being attempted. We therefore feel that it would be sufficient if the Tariff Board, which has been charged with this inquiry, were to make a summary report pointing out the abnormal situation in the industry both in India and in the world and recommend that in order to prevent any injury to the agricultural economy of the country and the integrity of the industry established within the last 16 years, under the impetus of a policy of protection, *the present measure of protection should be continued for the next five years* during which period Government should watch the situation and take concerted steps for effecting improvement in agriculture with a view to reducing the cost of production of cane per acre to a stage where it will be comparable with the cost of production in other advanced sugar producing countries of the world.

In fact, it is our confirmed opinion that the great leeway which India has to make up in respect of increase in the yield of cane per acre from the present average of 15 tons to at least 45-50 tons per acre all over the country—a process which will take a fairly long time in spite of the

most strenuous efforts—the present protection to the industry, which is in fact protection to Indian agriculture, will have to be continued for a decade or two more, and in order to hasten the date when protection would become unnecessary, Government should undertake long-term and short-term plans of research calculated to bring about a reduction in the cost of cultivation by increasing the yield and improvement in the quality of cane. It is most appropriate, therefore, that Government of India have decided, although belatedly, to increase their grant to the Indian Central Sugarcane Committee to the extent of Re. 0-4-0 per cwt. of sugar manufactured in factories, out of the proceeds of excise duty. A sum of Rs. 50,00,000 which will thus be available every year, commencing from 1947, will be very useful for this purpose.* We are convinced that the most effective way in which the cane crop can be improved is by a liberal expenditure on comprehensive research as was done in Java, Philippines, etc. The Indian Central Sugarcane Committee will have justified its existence, only by achieving signal success in this direction at the earliest possible date.

Protective Duty no Burden—Protection an Unqualified Success

In this connection, we may point out that the present import duty on sugar is Rs. 6-12-0 per cwt. which with a surcharge of 20 per cent and addition of an equivalent excise duty of Rs. 3-0-0 per cwt. with a surcharge of 20 per cent thereon, amounts to Rs. 11-11-2 per cwt. The incidence of the present import duty, however, is far smaller than what it was in the past because of the extraordinarily rapid rise in the price of sugar during the last 6 years, i.e. Rs. 14-0-0 in 1943 to Rs. 20-14-0 per maund in 1946 and Rs. 35-7-0 in December 1947 made necessary no doubt by great increase in the price of raw material, namely, cane, from Re. 1-4-0 per maund to Rs. 2-0-0 per maund, exclusive of the cess of Re. 0-3-0 per maund, and increase in the manufacturing charges. Besides, it is easy to see, as the Tariff Board has observed, that protection has been no burden to the consumer whatsoever for during the last seven years as there has been practically no import of sugar at all except for the quantity of 29,000 tons brought from Cuba for adding to our sugar supplies, in view of the decline of Indian production, and the internal price of sugar in the country was regulated by the Government, thus leaving no opportunity to the industry to exploit the position by raising the price of sugar with a view to enhancing its profit.

Indeed, it must be admitted that protection to the sugar industry has been an unqualified success in the sense that the country has been recompensed for the aid given to the industry, particularly in the war period, and that there is a wide scope for the future progress of this industry which may be secured by co-ordinated development of industry and agriculture. *The sugar industry is unique in its link with agriculture, a link for which there is no exact parallel in the case of other protected industries.* Besides, broadly considered, it comprises

* After the above was in print, we learnt with deep disappointment the reference made by the Hon'ble Shri Jairamdas Daulatram, Minister for Agriculture, at the 10th Central Sugarcane Committee meeting on 9th October 1948, to the Government of India's intention to reduce the grant for research to the former level of Re. 0-1-0 per cwt. which will work out to Rs. 12 lakhs per year only.

Full speeches of Sir Datar Singh, President of the Sugarcane Committee, and of the Hon'ble Food Minister, are reproduced in the earlier portion of the *Annual*.

We would also invite attention to the comments in the Preface.

not only the modern vacuum pan sugar factories but also the village industry of manufacture of *gur* and Khandsari sugar.*

As a result of the remarkable development of the sugar industry within the last 16 years, the country is now self-sufficient in regard to its requirements of sugar, and the Indian sugar industry has played a very important role in the war-time economy of the country. It must also be admitted that with a minimum sacrifice on the part of the consumer, India has been able to develop a very important large-scale industry, and this is a feature about which the country may legitimately feel proud. The gain in the long run will far outweigh the negligible sacrifice made by the consumer in the early years of protection. With the assistance of research one may expect that in a few years the price of sugar may be lowered, when the general level of prices in the country falls.

A word of explanation is necessary here in regard to the continuous rise in sugar prices during the last 5 years. It would be easy to see that this rise was necessitated by the increase in the price of cane, which again became necessary due to increase in the prices of other commodities and in the cost of production of the cultivator. The increase allowed in the cost of manufacture on account of increase in the cost of spares, materials, etc. was very negligible, and indeed, as has been pointed out in the previous pages, the Government of India did not make a liberal allowance for the same, out of regard for the interests of the manufacturer which were ignored to a great extent till 1947-48. On this score, the manufacturer had a legitimate grievance, in that he was not allowed a suitably higher margin of profit as in the case of several other protected industries, e.g. Cotton Textile, Steel, etc. to enable it to stabilise its position.

The position was altered slightly with the commencement of the 1947-48 season, when the manufacturer was given a fair deal and a liberal margin was allowed by way of profit when fixing the price of sugar in 1947-48 in consultation with the industry.

Anti-inflationary Measures since October 1948

It will be necessary to point out here that as a result of the series of disinflationary measures which the Government of India have decided to take in October 1948, a restriction has been placed on dividends of public companies whereby the cash amount distributed as dividend is not to exceed the average of the two years ending with March 31st, 1948, or 6 per cent on the paid-up capital, whichever is higher. Such measures rule out the possibility of any profiteering on the part of the industry and the imposition of any additional burden on the consumer by fixation of higher prices of sugar.

Protection Decidedly Advantageous to the Industry

The sugar industry has made satisfactory progress under protection granted to it since 1932. The results of the last 16 years have

* For a detailed discussion of this aspect of the question as also the potentiality of further development of sugar industry in India, we would invite the reader's attention to Mr. M. P. Gandhi's "Problems of Sugar Industry in India—Scope and Prospects of Reorganisation"—with a foreword by Sir Purshotamdas Thakurdas (December 1945—425 pages, Rs. 12).

justified amply the wisdom in extending protection to the industry and its contribution is immense today for the welfare of the nation. It would be difficult to imagine what plight we would have been in, had there been no well-developed sugar industry in India and had we depended upon imported sugar for our essential needs. This aspect of the question is very forcefully and effectively brought out by Sir Purshotamdas Thakurdas in the course of his foreword to Mr. M. P. Gandhi's recent volume on "Problems of Sugar Industry in India—Scope and Prospects of Reorganisation", 1945.

Sir Purshotamdas observes:

> "If Sir George Schuster, as Finance Member of the Government of India, had not, as appeared then, taken his courage in both hands and decided to give protection to the sugar industry, the economic history of India during the war period as far as sugar consumers are concerned, and indeed even as far as the requirement of the Army in India is concerned, would have been substantially different. Those who wish to rely upon what they fondly called cheap sugar from Java would have had the mortification of seeing the Indian public falling back only on local *gur* production and large quantities of sugar would have had to be imported for the British and American troops in India who would otherwise have had to go without sugar. Thanks to the policy of protection, however, they had a considerably greater ration of sugar than what fell to the lot of the civil consumer in India."

After a careful appraisal of various relevant factors, e.g. the marvellous progress of the industry, the almost complete self-sufficiency that we have achieved in regard to sugar, the improvement in the lot of millions of cultivators as a result of better returns from the cane crop cultivation, the relief afforded by the industry in cutting down the problem of severe unemployment in the country, particularly amongst the educated and technical men, the subsidiary industries which have begun to spring up, the scope for profitable development which was afforded to indigenous dormant capital during a period of acute world depression, the development witnessed in villages in the *gur* industry, and the general confidence gained by industrialists and managers of big establishments in India by the development of the industry, we feel that any frank and unbiassed person cannot help coming to the conclusion —perhaps the only conclusion—that the development of the Indian Sugar Industry has completely vindicated the policy of protection which has indeed proved a great blessing to the country. It has made possible for the people to get their quota of sugar, even during the war period, although perhaps in a smaller quantity, and has thus been responsible in eliminating a sugar famine which was the lot of many countries during the Second World War. The Sugar Industry today is unquestionably a great national asset and only due to its development to its present size, it has been possible to supply this cheap, essential, energising food, containing 100 per cent carbohydrates, to the people of the country, at a time when there is a shortage of carbohydrates in general in all parts of the world.

Sugar Panel's Report, 1946—Target of Production, etc.

Having refered to the question of protection to the Indian Sugar Industry in view of its outstanding importance in the agricultural eco-

nomy of the country, we may refer here briefly to the report of the Sugar Panel appointed by the Government of India in 1945 to investigate into the possibilities of increasing the sugar output of India and other cognate questions. The Report of the Panel on Sugar, Alcohol and Food Yeast Industries was published in the year 1946. Briefly, the Report recommended a target of production of 16,00,000 tons of sugar to be reached at the end of 5 years, of which 15,50,000 tons was for internal consumption and 50,000 tons for export outside India. The Panel also recommended 20 new units each with on annual production capacity of 10,000 to 12,000 tons of sugar to be installed as early as possible, and also the allocation of these units in areas other than the U.P. and Bihar which were concentrated with factories, in the interest of a proper dispersal of the industry all over the country. In our *Annual* for 1946 we have given the provincewise allocation of these 20 factories.

Allocation of 25 Units in 1947

The Government of India, in reviewing the recommendations of the Panel, came to the conclusion in 1947 that the above target should be increased to 18,50,000 tons of sugar per annum, and for this purpose they decided to allot 25 more new units among the various provinces. We give below the allocation of these 25 new units made by the Government of India in 1947.

To Indian States—7 (Details to be decided by the Political Department.)

To British India—16 as follows:

Madras	..	3
Bombay	..	2
Bengal	..	2
Punjab	..	1
Orissa	..	1
Assam	..	1
U.P.	..	4
Bihar	..	2

The allocation of two units had been kept in reserve by the Government of India.

It will be of interest to note that in the allocation of these 25 units as many as 4 have been allotted for U.P. and 2 for Bihar, although no new units were allotted to these Provinces in the past in accordance with the allocation recommended by the Sugar Panel. The Governments of Bihar and West Bengal have invited applications for the establishment of further factories in their areas.

Cost of Further Expansion—Nearly Rs. 220,000,000

The Sugar Panel estimated that the total cost of machinery required for (*a*) fuller exploitation of the existing capacity of the sugar factories, (*b*) enlargement of the capacity of the existing small plants, and (*c*) construction of 20 new factories of 1,000 tons of cane-per-day-crushing-capacity, would be about 11 to 12 crores of rupees. If to this we add the cost of establishment of 25 new factories, the cost would be about Rs. 10 crores more. This would mean further investment in the industry to the extent of about 22 crores of rupees. The Sugar Panel has

recommended that as far as possible sugar machinery should be fabricated in India.

Panel's Suggestions for Reduction of Cost of Sugar

It would be of interest to note that the Sugar Panel also recommended the continuance of protection to the sugar industry during the next 5 years. The Panel also made a suggestion for reduction in the price of sugar as that would help greater consumption of sugar in the country. They have observed that this is to be achieved by (1) lower cost of sugarcane, (2) higher recovery from cane, (3) lower excise duty, (4) improved efficiency, and (5) limiting of profit. The Sugar Panel had also laid considerable stress on intensification of agricultural and technological research and recommended a grant of Re. 0-4-0 per cwt. out of the excise duty to the Indian Central Sugarcane Committee for this purpose. As observed in the previous pages, this recommendation was approved by the Tariff Board and accepted by the Government in 1947. The Sugar Panel expected that if suitable steps were taken for intensifying cane development by propagation and introduction of new varieties of cane giving higher yields per acre, by introducing the practice of ratooning, by providing adequate irrigation facilities, etc. it would be possible to increase the yield of sugarcane per acre generally by at least 25 per cent within the next five years.

Increase in Capacity of Plants to 800 tons recommended

The Sugar Panel recommended that factories with a crushing capacity of more than 250 tons and less than 800 tons daily should be encouraged to expand the latter capacity, if there were reasonable prospects of extra cane being found within an economic distance. It also recommended that all factories should be allowed to improve their efficiency by installing upto two sets of cane knives and 17 rollers, and enlarge their boiling house capacity. Generally, there has been restriction on the extension of capacity in factories in U.P. and Bihar, without obtaining the express permission of the Sugar Control Board. During the year 1946-47 several factories in U.P. and Bihar applied to the Government for grant of licences for extension of their sugar plants or installation of new machinery equipment for the purpose of improving the efficiency of factories. The U.P. Government received 23 applications, and the Bihar Government, 4 applications. In Bihar and U.P. the economic limit of a plant has been raised from 650 tons to 800 tons per day, and factories were allowed to expand their capacity to this extent. The Warsaliganj Factory, in Bihar, licence for which was granted in 1947, is expected to start crushing cane from the 1948-49 season. Some factories were allowed *to be shifted in 1947 in U.P. and Bihar.*

Revision of Sugar Production Target for 1948

With the separation of Pakistan from India in August 1947, the target of production of sugar which was fixed at 18,50,000 tons in 1947, has been revised by the Government of India. They have also decided that it is not necessary for any capacity to be reserved for expansion of existing units. The existing capacity thus reserved previously will be allotted for erection of new units. This, however, does not mean that the expansion of existing units has been banned. It

has been decided to maintain the existing allocation which so far is: (1) Indian provinces 30, (2) Indian States 10.*

Power Alcohol—Manufacture Recommended

The Panel also recommended that it was desirable to develop the Power Alcohol industry in India, with the object primarily of (1) establishing an alternative source of motor fuel, partially to replace petrol, the supply of which in the country is short, (2) utilisation of surplus molasses which is wasted at present. The Panel recommended that 20 million gallons of Power Alcohol per year should be produced from molasses by the end of the next 5 years.

Molasses and Power Alcohol Production

Let us now turn to the question of molasses and Power Alcohol production. Molasses is a very important and valuable by-product of the industry and the output of molasses in India is far in excess of its present consumption. So far, due to lack of encouragement on the part of the Government, the Power Alcohol Industry, which can convert a large quantity of molasses into useful fuel for motor cars and trucks, is not developed in India. Although this by-product is utilised in India to some extent in the manufacture of Methylated Spirits, Power Alcohol, curing of tobacco, burning as fuel and as manure, a very large portion is thrown away as waste, polluting the countryside and water courses. On an average, from 100 tons of sugarcane, 10 tons of sugar and 3.6 tons of molasses are obtainable. Numerous useful products other than Alcohol can also be manufactured from molasses, such as, stockfeeds, edible syrup, surfacing roads, acetic acid, chemical solvents, etc. but today molasses is used to a very little extent for these purposes.

In our *Annual* for 1945-46 we have explained in detail Government's dilatory policy in encouragement of Power Alcohol production. Out of the total production of molasses of about 4,50,000 tons, after meeting internal miscellaneous demands of the country, about 4,00,000 tons of molasses would be available for conversion into Power Alcohol, and it would be possible to produce no less than 22 million gallons of Power Alcohol on the basis of one ton of molasses producing 56 gallons of Power Alcohol. The importance of development of the Power Alcohol industry at an early date has been fully explained and we hope and trust that the new National Government will give this matter suitable help so that it would be possible to establish the Power Alcohol industry in India at the earliest date.

We now give below a short history of the development of Power Alcohol in the U.P and Bihar.

A NOTE ON THE HISTORY AND DEVELOPMENT OF POWER ALCOHOL INDUSTRY IN THE UNITED PROVINCES AND BIHAR

Report of the Joint Power Alcohol and Molasses Enquiry Committee, 1938

The first step in the development of the industry was taken in the appointment of the U.P. and Bihar Joint Power Alcohol and Molasses

* Vide Letter from Ministry of Agriculture No. SV-508(3)|47, dated the 30th September 1948.

Enquiry Committee, 1938 (of which Mr. M. P. Gandhi was a member) whose recommendations established beyond controversy the fact that the production of power alcohol was desirable not only in national interest for the utilisation of an important by-product of the sugar industry, but that it could be produced at a reasonable and economic cost. (For details see our *Annual* for 1939 or 1944.)

Working of Power Alcohol Scheme in U.P. during 1947-48

We give below a note showing the working of the Power Alcohol scheme in the United Provinces during 1947-48 :—

There are 9 distilleries which are engaged in the production of Power Alcohol in U.P. The installed capacity for power alcohol which is calculated at about 70 per cent of the total manufacturing capacity is given below along with the figures of actual production during the year under review :—

Name of distillery.		*Installed capacity.* gallons	*Actual production.*
Shamli Distillery	...	4,00,000	2,07,762
Daurala ,,	...	7,20,000	2,76,808
Meerut ,,	...	5,40,000	1,38,192
Simbhauli ,,	...	5,00,000	1,90,106
Ajodhia ,,	...	4,67,500	1,75,469
Gola ,,	...	8,00,000	4,34,011
Hargaon ,,	...	6,75,000	2,72,644
Narang ,,	...	4,62,000	1,10,142
Shanker ,,	...	6,24,000	1,84,740
Total	...	51,88,500	19,89,774

The reasons for the shortage in actual production of Power Alcohol are various and are detailed below :—

(a) *Supply of molasses* : The supply has been irregular and inadequate. The sugar factories did not co-operate in its supply due to low prices of molasses fixed by the Government for distillation purposes. There were several cases in which molasses of standard quality were not forthcoming. There were also cases in which the molasses supplied were found adulterated and unfit for distillation purposes. Complaints were also made that the sugar factories used dilatory tactics in loading tank wagons on grounds of unsatisfactory pumping arrangements which they hardly cared to improve.

(b) *Supply of coal* : The supplies of coal continued to be erratic and irregular due to transport difficulties. Continuous production of Power Alcohol has been hampered for want of sufficient coal at many distilleries as the basic monthly quota allotted for distilleries has been curtailed by the Government of India by about 35 per cent.

(c) *Benzene and other Chemicals* : Supplies of chemicals and Benzene were not forthcoming sometime. The Chemical Directorate, Government of India, was moved several times before difficulties could be removed.

(*d*) *Mechanical Defects :* Certain distilleries had to shut down for certain mechanical defects in their plants. Daurala distillery remained closed for more than two months for effecting changes for duplication of their plant.

(*e*) *Poor off-take :* Full off-take of power alcohol could not be arranged at some distilleries due to breaches in roads on account of heavy rains, occasional defects in tankers and transport fleet and delay in transit of tank wagons from one place to another. This also resulted sometimes in the occasional closure of the distillery for want of storage space.

Lack of interest shown by the distilleries in the supply of Power Alcohol on account of low price fixed by Government and the occasional absence of Central Excise Staff at the distilleries at the time of issue hampered progress in the prompt supply.

The Power Alcohol scheme was in force in the following districts. The number of pumps in the district along with the quantities of Power Alcohol supplies during the period March 1st, 1947, to February 29th, 1948, is noted against each :—

District.		*Pumps.*	*Issues in bulk gallons.*
Bareilly	...	2	83,733
Naini Tal	...	4	3,10,125
Moradabad	...	1	64,218
Shajahanpur	...	1	33,938
Sitapur	...	1	21,100
Lucknow	...	3	1,69,277
Benares	...	1	47,466
Allahabad	...	3	1,07,368
Gorakhpur	...	1	87,986
Meerut	...	2	2,45,105
Dehra Dun	...	2	1,77,619
Muzaffarnagar	...	1	7,188
Saharanpur	...	2	1,91,208
		Total ...	15,46,331

Development of Power Alcohol in Bihar

During the year 1946, the S.K.G. Sugar Ltd., Nilganj, in the district of Sarang, set up a distillery capable of producing 3,000 gallons of Power Alcohol per day. But they could not take up actual manufacture of Power Alcohol for some time as no proper arrangement had been made for the disposal of the affluent waste water. Upto the end of the 1947-48 crushing season they were not able to manufacture any Power Alcohol as no agreement was reached regarding its price and no arrangement was made for setting up mixing depots, nor for the distribution of the mixture through the petrol distributing agencies. This distillery is for the present manufacturing potable country spirits and supplying the same to certain areas of the province. Another distillery for the manufacture of Power Alcohol has been set up by the

Bihar Sugar Works at Pachruki (Sarang). It is expected that it may start production by December 1948. The Bihar Molasses Control Act, 1947, which provides for the control, distribution, supply and prices of molasses produced by the factories in the province, was further amended by the Bihar Act IX of 1948, which had as its objects the prevention of dilution and adulteration of molasses and the fixing of standard quality of molasses in terms of brix.

As in the previous years, the ex-factory price of molasses fixed continued to be 8 annas per maund in South Bihar and 4 annas per maund in North Bihar. The ex-factory price of molasses was fixed lower in North Bihar, in consideration of the high transportation charges which the distillery has to bear before it reaches the distillery. The Government of Bihar requistioned 90 per cent of the molasses produced in Bihar sugar factories, for the manufacture of excise spirit in Bihar distilleries. Out of that requisitioned stock, 2 lakhs maunds of molasses were given to the Government of West Bengal for their distilleries. The balance quantity of molasses produced was left to be disposed of by the factories at the controlled prices.

In 1948, the Government of U.P. held two conferences with the industry and distilleries with a view to promoting the Power Alcohol production and to spreading its use in more districts. A circular was issued to all distilleries that they should produce 25 per cent more Power Alcohol this year, but in the absence of requisite supplies of coal it is doubtful as to whether this will materialise.

The Indian Sugar Syndicate is of the opinion that the United Provinces must be in a position to use Power Alcohol mixture for all its traction. The total consumption of petrol in U.P. amounts to 1,20,000 gallons, and an admixture of 25 per cent would consume 30,00,000 Power Alcohol. At present the maximum production of Power Alcohol by distilleries in U.P. is only about 14 to 16 lakhs gallons, but if all the distilleries in U.P. work 300 days in a year and to full capacity which is 655 lakhs gallons, there will be a surplus in the province, which might be transported to other provinces for admixture with petrol.

Pooling of Molasses in U.P.

With effect from the 23rd February 1948, the Government of U.P. appointed the Indian Sugar Syndicate as the sole distributing licensee of the molasses produced in factories in U.P. The Government of Bihar have not taken such action.

Central Government's Action in Passing the Indian Power Alcohol Act

The Government of India passed the Indian Power Alcohol Act in 1948, with a view to developing the Power Alcohol industry in the country. The text of the Act along with the extract from the speech of the Hon'ble Minister for Industry and Supply, has been given in an earlier portion of the *Annual* on pages xxx and xxxi. In this connection we wish to point out once again that the production and use of Power Alcohol are of national importance both from the point of view of use of molasses, which would otherwise be wasted, and of creating in the country a nucleus of industry which would be of great strategic importance in times of emergency. Besides, the use

of Power Alcohol would also reduce the price of the main product, namely, sugar. The U.P. and Bihar are the most important centres of production of Power Alcohol and they cannot absorb all the production within their limits. The requirements of U.P. on the basis of admixture of Power Alcohol and petrol in the ratio of 20×80 would be met by 15,00,000 gallons of Power Alcohol, while the total production capacity proposed to be allotted to the province by the Government of India will be 12 million gallons. There would, therefore, be a surplus of 10½ million gallons. Similarly in the case of Bihar, 8,00,000 gallons of Power Alcohol will be sufficient and there would be a surplus of 3.7 million gallons out of the annual production of 4.5 million gallons. In other provinces, namely, Bengal, Bombay, etc., the quantity of Power Alcohol produced would not suffice for the requirements of these provinces. The Government of India have, therefore, taken the appropriate measure of passing the Indian Power Alcohol Act which will enable them to regulate the industry properly, by enforcing admixture of Power Alcohol with petrol on the lines recommended by the Panel Report of 1947.

Bihar Power Alcohol Act, 1942

The Bihar Power Alcohol Act, 1942, was re-enacted as the Bihar Power Alcohol Act, 1948, which received the Governor-General's assent on the 26th March 1948. The Bihar Molasses Control Act was amended in 1948, and received the Governor-General's assent on the 24th March 1948.

Power Alcohol in Bombay in 1948

In 1948, the Bombay Government proposed to utilise the Government Distillery at Nasik for production of Power Alcohol. There are at present three distilleries in the province, at Kolhapur, Kalam and Belapur. The fourth one is being installed at Godavari. The existing ones manufacture rectified and denatured spirit, but are likely to manufacture Power Alcohol before long. It has also been suggested that all the five distilleries in the province which are wide apart should manufacture rectified spirit and the entire turnover should be pooled and dehydrated into Power Alcohol at a central plant. The total molasses available at present from the Deccan sugar factories is about 20,000 tons which would yield 10,80,000 gallons of 99.5 spirit. This would be insufficient for purpose of admixture with motor spirit and if compulsory admixture is made applicable to the whole province, Power Alcohol would have to be imported from U.P.

New Uses for Molasses

We suggest that the Indian Central Sugarcane Committee should devote their attention to finding out new uses for molasses, e.g. manufacture of Food Yeast, for purposes of manure, in land reclamation, etc. If a portion of molasses could be converted into Food Yeast of valuable vitamin content, it would be a great asset in the improvement of national diet. The Sugar Panel also recommended the establishment of the Food Yeast Industry, by making a small beginning.

New Uses for By-products of Sugar Factories

Bagasse: Bagasse, which is a fibrous husky product, left over after sugarcane-crushing and removal of juice, is at present mainly burnt as fuel in sugar factories. With an improvement in technical efficiency, economy in fuel consumption can be achieved, thus saving Bagasse for other purposes. In the present coal shortage, however, practically all the Bagasse is used as fuel. Bagasse has been found useful in the manufacture of insulated press boards, paper and straw-boards. It could also be used in the manufacture of Rayon and Plastics. We suggest that science and research should be mobilised for better exploitation of its possibility for industrial purposes at an early date.

Press Mud: This is another small by-product of the sugar factory which can be utilised for preparation of fertilisers, activated carbon, dye-stuff, etc. We suggest that suitable research should be carried on for discovery of other uses for Press Mud from Sulphitation Factories, and Carbonatation Factories.

Confectionery, Biscuit and Canning Industry

Another direction in which there promises to be scope for development, is the establishment of confectionery, biscuit and fruit canning industries. Manufacture of Sugar Juices, Demerara Sugar, Icing Sugar, Jams, Squashes, Biscuits and Canned Fruits should be encouraged. The Tariff Board also recommended the grant of facilities to establish such subsidiary industries and this was accepted by the Government of India in 1947.

LAW AND LEGISLATION

Indian Power Alcohol Act, 1948

The Government of India passed the Indian Power Alcohol Act, 1948, in April 1948. The text of the Act is given in the earlier portion of the *Annual* entitled the 'Sugar Industry at a Glance".

Sugar protection Act till 31st March 1949

The Government of India also continued protection to the sugar industry for a further period of one year ending 31st March 1949. The text of the Act is given in the previous portion of the *Annual*.

The U.P. Sugar Factories Control Act Extended to 1950

The life of the U.P. Sugar Factories Control Act, 1938, was extended on the 27th June 1947, by 3 years, that is, from 1947 to 1950. The life of the Bihar Sugar Factories Control Act was also extended in the year 1947

Sugar and Gur Control Acts Repealed

With the decontrol of sugar and *gur* from 8th December 1947, the Sugar and Sugar Products Control Order, 1947, *Gur* Control Order, 1947, and various orders made by the Provincial Governments in so far as these orders related to the production, price, supplies and distribution of sugar or *gur*, ceased to have effect.

Under Notification No. PX-603(2) dated 8th December 1947, issued by the Ministry of Food, Government of India, there is to be no internal control over the movement, distribution and price of any grades of sugar and *gur*, but movement out of India was made subject to quota control.

Stocks of Sugar frozen on 9th December 1947

By a notification dated the 9th December 1947, the stocks of sugar held by sugar factories on the 8th December 1947, were frozen, and factories were asked to submit details of the stocks by 15th December 1947.

Sugarcane Cess Act, 1948

In Bombay a Sugarcane Cess Act was passed in October 1948, whereby a cess of Re. 0-3-0 per maund of cane was imposed on Cane consumed in factories, retrospectively, from 1st January 1948.

Profits of Sugar Companies

We have already referred to the fact that the Government of India did not allow adequate manufacturing costs to the sugar Industry in the computation of sugar prices. Stringent control measures enforced from 1942, by which the industry was controlled almost completely, not only in respect of its prices, purchase of raw material, namely, cane, but also of the sale of its by-products, namely, molasses, along with the prices and movement of sugar itself, which greatly curtailed the scope and margin of profit to the industry. A review of the general position and the balance sheets of a large number of sugar mills would show that the industry did not enjoy great prosperity even during the war period. In 1944-45, 1945-46 and 1946-47, a large number of factories made no profits at all, and indeed incurred losses. This was also admitted by the Sugar Controller in his evidence before the Tariff Board (Sugar) in 1947. During the year 1947-48, however, the price of sugar was fixed on a liberal computation of the various components that entered into the cost of manufacture of sugar, and a fair margin of profit was allowed, and as a result of this, the industry can be said to have been treated very fairly during this year. This will enable the industry to make good some of the losses in the past years and to put by suitable reserves for replacements, renewals, etc. It is hoped that the Government of India will continue to treat the industry fairly in the matter of fixation of a fair price which they propose to arrive at in consultation with the Indian Sugar Syndicate in the years to come.

It might be stated here that as a part of the measures of the Government of India for combating inflation, there has been limitation of dividends with effect from 1948. Under this limitation companies will not be able to declare dividends in excess of the average of the two years ending 31st March 1948, or 6 per cent of the capital, whichever is higher. The table on the following page gives the dividends paid by a few sugar companies from 1937 to 1947 :—

Capital and Net Block of a few Sugar Companies, and Dividends since 1937.

Name of Sugar Factory	Paid-up Capital with Debentures*	Net Block	Dividends %										
			1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
	Rs.	Rs.											
Balarampur ...	28,00,000	23,94,169	3¾	2½	Nil	Nil	Nil	Nil	5	5	Nil	2½	Nil
*Basti ...	18,00,000	18,94,611	15	15	12	5	10	20	30	20	20	15	...
Belsund ...	20,49,950	14,47,872	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Belapur ...	37,59,800	36,07,486	14	14	20	20	14	12	18	18	16	...	...
Bharat ...	6,25,000	4,91,832	10	5	5	Nil	5	7½	12½	10	10	7½	...
Buland ...	24,00,000	22,69,814	6	11¼	11¼	12½	17½	22½	22½	25	20	Nil	...
*Carew ...	65,00,000	56,14 075	10	10	Nil	Nil	Nil	Nil	12½	10	15	12½	Nil
Cawnpore ...	25,00,000	27,66,414	5	5	2½	2½	15	15	25	15	15	15	15
Champarun ...	18,00,000	19,47,896	5	5	7½	2½	15	15	30	20	20	15	12½
Durbhanga ...	26,00,000	18,19,829	...	...	...	...	12½	10	25	10	Nil	5	
*Deoria ...	8,99,452	10,33,906	...	5	5	Nil	5	7½	...	10	Nil	Nil	
Ganesh ...	8,00,000	8,25,407	5	5	2½	Nil	12½	...	...	...	...	...	
Ganga ...	8,52,841	9,36,912	...	9	18	12	20	20	...	...	...	...	
*Gaya ...	9,84,200	11,27,452	8	8	8	8	8	...	8	8	6	...	
*Mahaswastika ...	6,50,000	5,42,176	...	Nil	Nil	Nil	...	...	...	...	...	...	
Modi ...	12,00,000	16,22 542	10	7	12	12	15	...	...	...	...	...	
*Mysore ...	30,79,280	21,79,280	10	15	15	20	20	20	20	20	20	20	...
*Nawabganj ..	19,46,030	19,83,186	5	11	10	5	12	...	20	15	15	15	
New Savan ..	11,00,000	8,00,000	Nil	Nil	Nil	Nil	10	7½	12½	15	7½	Nil	
*New India ...	14,12 700	12,68,372	...	Nil	Nil	Nil	Nil	Nil	...	...	...	...	
Punjab ...	11,93,642	26,17,247	15	15	6	Nil	10	10	10	15	15	...	
Purtabpore ...	15 50,000	16,02,376	Nil	Nil	Nil	Nil	5	Nil	12½	7½	7½	7½	Nil
*Ramnugger ...	24,00,000	28,99,038	...	Nil	Nil	Nil	Nil	...	...	...	10	10	
Raza ...	15,00,000	20,28,609	7½	12½	12½	12½	17½	22½	22½	25	25	Nil	
*Ryam ...	10,97,400	7,10,917	Nil	Nil	Nil	Nil	Nil	5	20	15	10	10	
*Samastipur ..	17,19,000	11,94,577	Nil	Nil	Nil	Nil	Nil	5	10	7½	3¾	3¾	
*Shree Sitaram ..	10,95,462	10,20,378	10	10	...	5	7½	12½	15	...	10	7½	5
*Sitalpur ...	13,01,310	12,05,659	Nil	2½	2½	Nil	Nil	5	6¼	6¼	2½	Nil	
*South Bihar ...	13,25,000	16,79,861	15	25	10	9	15	10	...	...	...	...	
*Upper Ganges ..	11,99,900	10,38,095	7½	7½	10	Nil	17½	15	15	...	...	...	

Labour Legislation

There has been considerable labour legislation in the industry since 1945-46. There was also great unrest in the industry, particularly during the years 1946 and 1947. This led to the appointment of inquiry committees in U.P. and Bihar. In our *Annual* for 1946-47 we have referred in detail to the appointment of these committees and have also given extracts of their reports along with the resolutions of the Gov-

* Only those marked with asterisks include Debentures.

ernments of U.P. and Bihar in implementing some of these recommendations. As a result of the implementation of these recommendations, the cost of manufacture of sugar has gone up considerably. For example, while the minimum wage of an unskilled worker was raised to Rs. 36 in the year 1946, it was further increased to Rs. 45 with effect from the 1947-48 season. This was done by a notification of the U.P. Government dated the 10th December 1947, which laid down the scale of increased wages. In this connection we like to observe that no other industry in the U.P. and Bihar has reacted so favourably to labour and its demands as the sugar industry. Being a controlled industry, the Government invariably found it easy to negotiate on all matters with the Indian Sugar Syndicate and further the Conciliation Boards appointed by the Government always found material ready for granting labour amenities. For instance, the Bhatia Committee of 1946 recommended certain minimum wages and scales of increment. These came into effect from 1st October 1946. Later the question of compulsory leave came in by which factories were obliged to pay full salary in certain cases where they used to pay half or one-third. Later on labour demanded a bonus and the Government directed that 25 per cent of the estimated profit of the 1946-47 season be paid to labour. In addition to this, the industry consented to pay bonus to labour at the rate of Re. 1 per maund on the stocks amounting to 84,000 tons which were left with the factories, when decontrol was announced on the 8th December 1947. All these items have raised the cost of production considerably. An idea of how much these amounted to can be had from the following :—

The Bhatia Committee's recommendations worked out to Re. 0-9-6 per maund of sugar, and taking the production of U.P. at 5.2 lakhs tons, the total extra amount paid by the industry came to Rs. 85,00,000. On account of compulsory leave, the incidence was equal to 3 annas per maund of sugar, and the total amount thus paid to the workers amounted to Rs. 26,00,000. 25 per cent bonus similarly worked out to 3.5 pies per maund and the total amount came to Rs. 30,00,000. Special bonus paid on old stocks at Re. 1 per maund amounted to Rs. 19,00,000. It will thus be seen that the extra payment made by the industry in U.P. alone worked out to Rs. 1,62,00,000. Dividing this amount by 64 factories in U.P. the average increased payment made to labour worked out to Rs. 2,50,000 per factory.

During the year the Government of U.P. were considering as to what further action should be taken on the report of the Labour Inquiry Committee of U.P. called the Nimbkar Inquiry which was instituted in December 1946. The full report of the Committee is not yet available, but we give below the principal recommendations of the Committee, which we obtained from the *Indian Labour Gazette*, August 1948 issue :—

REPORT OF THE UNITED PROVINCES LABOUR ENQUI COMMITTEE, 1946-48 *

Principal Recommendations

The first Report of the U.P. Labour Enquiry Committee, 1946-48, dealing with wages, dearness allowances and bonus has recently been published. The Committee was appointed in December 1946 under the Chairmanship of Mr. R. S. Nimbkar† with comprehensive terms of reference. As the response to the Committee's questionnaire was inadequate, they appointed ten sub-committees to collect data about the wages, one for each industry. They also appointed two sub-committees to frame a draft for the standardisation scheme for the cotton textile and sugar industries. The principal recommendations of the Committee are summarised below.

The Wage Problem.—The Committee's analysis of the wage problem in U.P. reveals the following characteristics:—(1) the non-standardised nomenclature of industrial occupations, (2) disproportionately large number of wage rates and the unscientific differentials on which they are based, (3) large variations in the rates prevailing in different concerns for similar occupations, (4) low and inadequate level of wages, (5) continuance of old basic rates which are now quite inadequate, (6) disproportionately small increase in earnings in 1939 as compared to the cost of living, and (7) tendency of wages to approximate towards the same level of wage rates in different industries and centres, etc.

Minimum Wage.—The Committee have come to the conclusion that the fixation of minimum wages is the basic necessity of the Province. They have recommended the fixation of minimum wages for five main categories, namely: (1) the unskilled, (2) semi-skilled, (3) skilled, (4) highly skilled and (5) clerks. Instead of a minimum wage, however, they have recommended the 'subsistence plus level' or, in other words, living wage standard. In estimating the wage adequate for a living wage standard they have taken the size of a natural family to be a worker, his wife and two children and that of a joint family to be 1.2 male adults, 1.1 female adults and 1.2 children for the pre-war period. On the basis of a balanced vegetarian diet of 2,700 calories per adult they have computed the cost at pre-war price for Kanpur, Agra, Banaras and Saharanpur and have arrived at a figure of Rs. 6 per month as the cost of such diet per adult. According to them the cost of the standard accepted by them varies between Rs. 33-6-6 and Rs. 37-5-3 for an actual family of a medium size. On a consideration of the evidence placed before them they have recommended a minimum wage of Rs. 30 for unskilled workers in the United Provinces. In regard to the other categories of workers they have recommended a wage of Rs. 40 per month for semi-skilled occupations, Rs. 50 for skilled occupations and Rs. 75 for highly skilled occupations. In the case of clerks they have accepted the formula suggested by Mr. Justice Rajadhyaksha and have recommended a long term time scale commencing with Rs. 55 per month and rising to Rs. 250 per month.

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* *First Report of the United Provinces Labour Enquiry Committee, 1946-48*, Volume I—Part I (Wages, Dearness Allowances and Bonus), Allahabad, Superintendent, Printing and Stationery, United Provinces, India, 1948. Price Rs. 4.

† Mr. R. S. Nimbkar expired in October 1948.

The Committee have recommended the same minimum wage for the entire Province. They have also proposed that the same wage should be paid to women workers as to men workers. In order to discourage child labour they have recommended the same wage for adolescents and Rs. 25 per month for children.

Standardisation.—In the opinion of the Committee, standardisation is the most effective method of eliminating competition between different employers. The Report contains details of standardisation schemes for the cotton and sugar industries. The Committee recommend that wages should be standardised in the other industries as well on the basis of minimum wages suggested by them for different categories of work.

Dearness Allowance.—The Committee state that the minimum wage recommended by them is on the basis of the pre-war level of prices and it would have, therefore, to be supplemented by a dearness allowance which is normally linked with cost of living indices. In this connection they have considered the criticisms of the Kanpur index number and have suggested that the Government should re-examine the position and place the index beyond all suspicion and an attempt should be made to reconstruct it on a more satisfactory basis.

On the question of the grant of dearness allowance the Committee's examination of all the present schemes in force shows that not one industry or centre or even one wage category can claim a uniform system in regard to the allowance granted. They found six different types of schemes in force in the Province. They have, therefore, come to the conclusion that a new arrangement uniformly applicable to all centres is required. In regard to this matter they consider that simplicity of operation and automatic adjustment with the variations in the cost of living index to be two very important essentials of any new scheme. A flat rate per day per point of the increase in the index is, in their opinion, easy to understand and equally easy to operate. They have, therefore, adopted these principles for their new scheme. They have recommended a monthly rate of 3 annas per point of increase over a pre-war cost of living index for A category of units, 2 annas 6 pies for B category and 2 annas for C category. The suggested rates will neutralise, to the extent of 100 per cent, the rise in the cost of living in the case of 25 per cent or more of occupations in all industries. In order to discourage the "go slow" movement, the Committee have suggested that the dearness allowance admissible for each occupation should be termed into a rate per rupee on the basis of standard earnings for a standard efficiency. The Committee have further recommended that if and when prices become stable and the cost of living variations do not exceed 15 points within a period of one year the dearness allowance granted may be absorbed in the basic wages.

The Committee have recommended payment of two days' basic wages as profit bonus for every one per cent of dividend given to shareholders. In the case of private companies they have recommended that 25 per cent of the net profits of the concern should be equitably distributed among the workers. On the basis of the Committee's analysis of the facts and figures relating to the "capacity of the industry to pay", the Committee have come to the conclusion that most of the industries in the Province are in a very prosperous condition and can bear the additional burden thrown on them by our proposals in respect of minimum wages, dearness allowance and bonus.

In regard to the implementation of the Committee's recommendations they have suggested the immediate enforcement of their proposals on a statutory basis. They do not, however, recommend that the recommendations of wages should be specified in the law itself but have suggested, as an alternative, that the law may empower the Government to treat the Committee's recommendations as those of a Wage Board and give effect to them accordingly. They have also recommended a permanent machinery for settling wage disputes.

Strikes in Factories in U.P. and Bihar

During the year 1946-47 there were nine strikes, and during 1947-48 fifteen strikes, in factories in U.P., of varying duration. In Bihar there were four strikes during 1946-47 and one during 1947-48. A large number of Trade Unions of labour have now sprung up in the sugar factories in U.P. Upto March 1948, there were as many as 79 unions which means almost one union per factory, and in some cases even more than one in a factory! Several disputes were referred to Conciliation Boards and Industrial Courts and adjudications were made by various authorities. Not being content with the very fair deal given by the industry at the instance of the Governments of U.P. and Bihar, extravagant claims are being constantly put forward by labour, and in October 1948, the Executive Committee of the U.P. and Bihar Sugar Mill Workers' Federation demanded in a resolution that the Government should implement the recommendations of the U.P. Labour Inquiry Committee and that they should be granted bonus for the season 1946-47 at the rate of 8 annas per maund, and for 1947-48 at Rs. 3 per maund of sugar. The resolution also stated that while the necessity of increased production and gravity of the situation in the country were fully realised, they would be compelled to resort to strike if their demands were not conceded. During the year 1947 the sugar industry was declared a public utility service in Bihar for the purpose of the Industrial Disputes Act, 1947. The effect of this declaration is that 14 days' notice for strike or lock-out is made obligatory in the case of sugar factories in Bihar. This was in response to the demand of the industry.

Factories Act, 1948

Before we conclude this discussion in regard to labour, we must refer to the Factories Act, 1948, which broadly ensures the proper working conditions, requirements of health for workers, child labour and other allied matters.

The Factories Act, 1948, is a comprehensive Act which consolidates improved laws regulating labour in factories. It will come into effect from April 1949.

The principle underlying this measure is that no one should employ any worker on any manufacturing process without ensuring his safety, health and welfare. The Act places the onus of compliance squarely on the occupier of a factory, the person who has ultimate control over its affairs. The scope of the new Act has been widened considerably so that it will now apply to all work places, where 10 or more persons are employed, and power is used; and for the first time, the provisions have been extended to factories where, even though no power is used, 20 or more persons are employed.

With a view to preventing haphazard and unregulated growth of new factories, and to secure compliance with modern standards of working conditions, health and safety, the Act provides for plans of all new factory buildings to be submitted for prior approval. The new Act requires effective methods to be adopted, for the disposal of trade wastes and effluents, any neglect of which constitutes a serious threat to health. It has been provided that no person who has not completed 14 years of age shall be employed in any factory. Provision has also been made for more adequate examination of young persons before they are employed, and for annual examination of the young person until he reaches the age of 18. Further, workers in certain special dangerous trades are to be medically examined periodically—a provision that has done so much in other countries for the control of occupational diseases, such as lead-poisoning, silicosis and the like. In addition, stricter provision has been made to control processes that are known to produce industrial diseases.

The general provisions of the Act have been strengthened to bring the safety requirements to the accepted standards of the industrially more advanced countries, not only in the safeguarding of dangerous machinery, but also in securing safe methods of working in the case of hoists and lifts, lifting gear, safe means of access to work, protection against dangerous fumes and dust, and explosion of gases and vapours. Promoting the welfare of the factory worker is another vital matter provided for in this Act. Definite requirements regarding sanitary accommodation, washing facilities, rest rooms, and lunch rooms have been laid down and a very much higher standard is now required.

Advance in Labour Legislation in India in recent years

The Dominion Legislature also enacted the Minimum Wages Act, 1948, in March 1948. The year thus witnessed considerable achievements on the labour front.

It is hardly necessary to observe that the Ministry of Labour have embarked upon a positive programme of labour legislation within the last 3 years which represents considerable advance on what has been attempted not only in this country but also in Asia. In fact in many respects the programme of labour legislation brings us within a measurable distance of the achievements of western countries which were industrialised very much earlier than India. Even in regard to wages there has been a great improvement as a result of conciliation and compulsory adjudication in industrial disputes. We are afraid, however, that in spite of this, labour does not seem to have appreciated what has been done for it and has not yet assumed an attitude of responsibility. As responsible citizens of a great country, the main task before it at the present time is to arrange for increased production of various articles required by the people. While it is the duty of the workers to think ahead and heed the signs of time and create goodwill and contentment in the labour force, it is also the duty of labour to realise its obligations to society. We earnestly hope and trust that labour will act in a more responsible manner, leaving it to the State to continue to look after the question of providing further amenities, if any, as is being done, particularly during the past few years, and to devote itself heart and soul for further increased production.

The Industrial Relations Conference, Bihar

The following resolution passed by the Government of Bihar, Labour Department, on the 28th November 1947, bearing on the sugar industry will be of interest in this connection :—

The *personnel* of the Board of Conciliation of U.P. and Bihar is also given below.

The following resolution No. 2704-XL-(S)|47-L dated the 28th November 1947, was issued by the Government of Bihar, Labour Department, in connection with the above subject :

" Whereas the industrial relations in Sugar Industry, which is a public utility concern, have shown signs of discord and whereas the ensuing crushing season of this important industry is likely to be a short one, the Commissioner of Labour and Employment, Bihar, called a Conference of the representatives of the Sugar Factories and their Trade Unions to discuss the outstanding problems of industrial relations in order to ensure industrial peace during the season. Having discussed and considered the problems with the representatives of the parties in the said Conference and having taken into account the contending viewpoints of both the parties regarding the capacity of the Industry to bear any further burden, the Government of Bihar are pleased to make the following decisions, namely :—

(1) That the recommendation of the Bhatia Committee in respect of wages shall continue to remain in force in the ensuing crushing season and it shall be deemed for modification if there is any change of wages in the factories of the United Provinces on the recommendation of the United Provinces Labour Enquiry Committee.

That for the season 1946-47 the recommendation of the Bhatia Committee shall be given retrospective effect from 15th November 1946.

That all departmental labour shall get the benefit of the Bhatia Committee's recommendations.

(2) That the overtime payment in Bihar Sugar Factories should fall in line with that of the United Provinces both in respect of the past and ensuing crushing seasons.

The amenities granted in respect of fuel and kerosene oil should continue, but no money compensation should be claimed, where such amenities were withdrawn during the last season.

That graded increments where they were in force shall be given effect from the last season, but no claim shall be made for the arrears of the last year.

(3) That the bonus for 1946-47 should be paid according to the recommendation of the Bhatia Committee on the basis of balance sheet and the decision of the United Provinces Conciliation Board, if any.

(4) That representatives of the factories shall consider the recognition of the Trade Unions recommended by the United Provinces and Bihar Sugar Mills Workers' Federation, 11|39, Gwaltoli, Kanpur.

(5) That the orders of the Government of Bihar on the question of compulsory leave as contained in their letter No. 361-L.T., dated the

16th September 1947, shall be followed. If the Government of the United Provinces decide to compensate the factories for the extra cost involved, the Government of Bihar will consider similar relief.

(6) That the factories shall introduce Provident Fund for the permanent employees if Government provide for expenses to be incurred on that account in the price of sugar. This shall, however, have no effect on the factories where Provident Fund already exists.

(7) That the question of leave and holidays to be granted to the different categories of workers shall be settled by mutual agreement between the Indian Sugar Syndicate, Limited, and the United Provinces and Bihar Sugar Mills Workers' Federation.

(8) That a Standing Conciliation Board shall be constituted under the Industrial Disputes Act, 1947, for promoting settlement of disputes that may arise from time to time between the employers and employees in sugar factories in the province of Bihar during the crushing season in 1947-48."

Board of Conciliation, Bihar

The following Notification No. 2703-XL-(S)|47-L dated the 28th November 1947, was issued by the Labour Department, Government of Bihar :—

"Whereas an industrial dispute is apprehended between the employers and employees in Sugar Factories in the Province of Bihar :

Now, therefore, in exercise of the powers conferred by section 5, read with sub-section (1) of section 10 of the Industrial Disputes Act, 1947 (XIV of 1947), the Governor of Bihar is pleased to constitute a Board of Conciliation, consisting of Mr. Shiva Pujan Rai, Additional District Judge, as Chairman, and Major H. S. Brar and Shri Brij Kishore Shastri as Members, for promoting settlement of any industrial dispute that may arise from time to time during the crushing season in 1947-48."

Board of Conciliation for the United Provinces Sugar Factories

Under United Provinces Government, Labour Department Notification No. 3428(ST)|XVIII-261(ST)|47 dated the 12th November 1947, the Provincial Government intimated the constitution of a permanent Board of Conciliation, known as the Sugar Industry Conciliation Board and consisting of the District Judge, Lucknow, as Chairman and Messrs. Kashinath Pandey and D. R. Narang as Members, for promoting the settlement of disputes between the employers and employees in sugar factories in the United Provinces.

Powers and Duties of Government Labour|Conciliation Officers and Inspectors

The contents of the undernoted Circular, No. LD|UP|9|47 dated the 15th October 1947, issued by the Chief Labour Officer, Indian Sugar Syndicate Limited, Kanpur, in regard to the above subject, are reproduced for general information :—

"Enquiries have been received from a number of factories regarding the powers and duties vested in the Government Labour|Concilia-

tion Officers and Inspectors, I give below the main functions of the Labour Officers :—

1. Settlement of Industrial disputes.

2. Collection, compilation and publication of statistics of Labour Conditions and Welfare.

(b) Conducting inquiries into general economic conditions of workers.

(c) Labour intelligence.

3. Organization of Labour Welfare work.

Labour Inspectors have to assist the Conciliation Officers and are vested with the powers of Factory Inspectors.* Under Section 11 they are authorised to enter and inspect all factories in U.P. for the purposes of their official duties. They are also appointed Inspectors under section 14 of the Payment of Wages Act.

The Labour Conciliation Officers are also Inspectors of Factories under Section 10 of the Factories Act and Section 14 of the Payment of Wages Act."

Government of India's Subsidy to the U.P. and Bihar Sugar Factories—1947

We referred last year to the fact that factories in U.P. and Bihar could not meet the cost of increased wages and other facilities granted to labour during the 1946-47 season, on the recommendations of the Wages Inquiry Committee, unless the Government of India subsidised sugar factories in U.P. and Bihar to the extent of 9 annas per maund, as the price for sugar was fixed previously. The Government of India, therefore, accordingly announced that the U.P. and Bihar factories would be given a subsidy of 9 annas per maund of sugar. This they did out of the proceeds of the additional (temporary) excise duty on sugar of Rs. 4-4-0 per maund which was imposed in October 1946, from which a revenue of Rs. 1,80,00,000 had accrued.

During the year 1946-47, all the 64 factories working in U.P. and 29 factories working in Bihar were given varying amounts of money as subsidy by the Government of India *on the basis of their total production of sugar* at the rate of 9 annas per maund to enable them to bear the cost of increased wages and other facilities granted to labour. It will be of interest to note that the Hindustan Sugar Mills of Gola Gokernath was paid Rs. 3,50,000, the Saraiya Sugar Mills Rs. 2,23,000, Daurala Sugar Mills Rs. 2,36,000, etc. The maximum amount paid in Bihar was to the Motipur Sugar Factory which was paid Rs. 1,48,000. The Shri Hanuman Sugar Mills was paid Rs. 1,05,000, the S.K.G. Sugar Mills was paid Rs. 1,13,000 and the Kanpur Sugar Mills Rs. 1,20,000.

Sugar Industry—A Big National Asset

A perusal of the previous pages will have shown conclusively that the Indian Sugar Industry is a big national asset of the country. The emergence of this industry to its present size and status during the last 18 years is an event of world-wide importance. By supplying sugar to the country it has prevented the distress which would have been unavoidable during the war period when importation of sugar would have

been well nigh impossible. The present production is of the order of 11,00,000 tons and can easily go up to 15,00,000 tons with the present capacity of factories. There is a large potential demand of sugar in the country and in fact there is a great necessity to increase her consumption of sugar which is very low at the present time. It is well known that our consumption of sugar works out to about 6 lbs. *per capita,* and of *gur* 20 lbs. *per capita.* It is necessary at least to double our consumption of both sugar and *gur.* The value of sugar in the food economy of the country should also be properly assessed. The Indian Famine Inquiry Commission, 1945, in its final report, observed that "white sugar is a carbohydrate food containing no protein or other vitamins, it supplies calories, and since there is much under-nutrition, calories are needed.

The *per capita* consumption of sugar in India as compared to other countries of the world is interesting. Against 106 lbs. in U.K., 97 lbs. in U.S.A., 34 lbs. in Brazil, 116 lbs. in Australia, 88 lbs. in Cuba, 11 lbs. in Java, 47 lbs. in the Union of South Africa, 64 lbs. in the Netherlands Indies, the consumption in India is only 6 lbs. of sugar and 20 lbs. of *gur per capita.* The Famine Inquiry Commission further observed that "The present *per capita* intake of sugar in all forms in India is much lower than the peace-time intake in most western countries, and we believe that its production and consumption *can with advantage be considerably increased.*"

The Hon. Shri Jairamdas Daulatram, addressing the 10th meeting of the Indian Central Sugarcane Committee in October 1948, observed that "based on a consumption of at least 2 oz. per day as part of a well-balanced diet, the citizen of India would need about 46 lbs. of sugar and *gur* per year. This shows that the *gur* and sugar industry needs at least to double its production if the Indian citizen is to have his due in the matter of nutritious food."

Increase in Sugar Consumption during the last few years

In the pre-war period the average annual consumption of sugar varied from 10,50,000 tons to 11,00,000 tons. Various factors since then have increased the sugar-mindedness of the people generally and the consumption of sugar would have shown considerable increase had it not been for the intervention of the war and the introduction of rationing, which led to considerable decline in the consumption of sugar. In order to make the national diet more satisfactory from the standpoint of nutrition and in order to provide an energising food for the citizen, it is necessary to increase both production and consumption of sugar in the country before long. Apart from this there are other directions in which consumption of sugar is likely to go up, namely, in larger production of confectionery and in various other industries e.g. biscuit-manufacturing, which use sugar. The Candy, Confectionery and Fruit Preserving industries would also consume larger quantities of sugar. In addition to these, there is of course the potential export market to the extent of about 2,00,000 tons which India can easily obtain in the various adjacent countries, e.g., Ceylon, Nepal, Tibet, Afganistan, Pakistan, etc. Apart from this, any lowering in the sugar prices would also mean considerable increase in consumption. Efforts are well under way for bringing about a reduction in the price of sugar in the years to come and to the extent that these efforts succeed, consumption of sugar is bound to go up.

Low Yield must be remedied

There should be no doubt left in the mind of any one that the Indian sugar industry which has furnished a magnificent example of the success of the policy of protection, will rise to the occasion and will play an important role in the national economy of the country. The biggest effort for further development of the industry will have to be made by the Ministry of Agriculture, in the direction of accomplishing a reduction in the cost of production of cane which constitutes about 60 per cent of the present price of sugar. The possibility of bringing about a reduction on the technological side is not very great, but there are immense possibilities of bringing about a reduction in the cost of production of the raw material, namely, cane, for the yield of cane per acre is very very low in India at the present time and this admits of great and immediate possibilities of improvement.

Taking the total production of sugar and *gur* into consideration, India is the *largest single sugar producing country in the world today.* It will not also be denied that it has taken big strides in the development of this industry. It is a matter of extreme anxiety, however, that the average yield of sugarcane per acre in India has remained practically constant for the last 15 years at the very low level of about 14-15 tons per acre, as against 62 tons in Hawaii, 56 tons in Java, 41 tons in Peru, 27 tons in U.S.A., 21 tons in Australia, and 17 tons in Cuba. (*Vide* table in the previous portion of the *Annual* entitled " Sugar Industry at a Glance ", giving the yield of cane per acre and recoveries in different countries, Table No. 23, page x).

It is a matter of great regret also that this low overall average in India has started to decline further during the last few years owing to various reasons, e.g. improvement of the soil, lack of irrigation, lack of manures, lack of rotation of crops, lack of adequate supervision, etc., and it is the duty of all concerned to find means not only for arresting this decline but also for accelerating the progress and improvement in this direction.

Causes of degeneration of cane varieties

It should also be realised that " although the area under sugarcane each year has been the largest as compared to any other country in the world, its yield per acre is about the lowest." These low yields were largely due to the poor quality of the cane grown, the average yield being only about 10 tons per acre, during the twenties of this century. As a result of improvement in the acreage under improved varieties during the last 17 years, however, the yield has improved from 10 tons to about 14 tons, but yet it compares very very unfavourably with the yields in other countries as stated above. It should also be noted that the bulk of the cane area (nearly 75%) is in the sub-tropical northern parts of U.P., Punjab, Bihar and Bengal. The whole of this area is subject to extremes of temperature, particularly towards the north-west where there is frost in the winter months. As a result of the improvements made by the Sugarcane Breeding Station at Coimbatore, the improved Co. cane which occupied about 11 per cent of the cane area in India in 1928-29, occupied 76 per cent of the area in 1935-36, and there are now several individual improved tracts where the Co. cane occupy more than 90 per cent of the area. There is perhaps no other economic crop in which such an advance has been recorded in India. The higher yield of the Co. cane has reflected itself in the higher over-

all average of the yield of cane in India. Before the advent of the Co. cane the average outturn of cane was about 10 tons per acre. Today (1948) it is about 15 tons per acre. In the tropical areas like Bombay and Madras, the yield is on an average of 35-40 tons per acre and there is possibility of further improvement therein.

Agricultural Aspects of Cane-growing

As pointed out, the improved Coimbatore cane has now generally replaced the poor yielding indigenous varieties of low sugar content in more than 80 per cent of the cane area in India. In fact these varieties have proved quite capable of producing spectacular yields when grown in tropical conditions. High yields upto 50 tons or 55 tons per acre have also been secured in tropical India from existing improved strains of the crop under suitable conditions of manuring and irrigation, and with proper planning of co-ordinated research, there appears to be no reason why suitable development cannot take place even in the sub-tropical parts in respect of yields of cane. There is no problem on the ground of variety of cane. Superior varieties have been evolved and are being planted. *Hence the only question which arises is as to whether these varieties are actually degenerating and need replacement in the different sugar tracts of the country.*

From the above discussion it will be conceded that the improved varieties of cane with more vigorous growth and higher tonnage would naturally call for higher soil fertility, better cultivation and more solid moisture than the indigenous cane. The best use of the potentialities of these new varieties of cane can, therefore, be made only by the application to the soil of sufficient quantities of organic manures and artificial fertilisers of the correct type ensuring thereby adequate supplies of nutrients to the growing plant. The higher metabolism of the plant also requires more frequent and larger quantities of irrigation water. *These two essential factors in successful cultivation of sugarcane and the value of better tillage and suitable rotations along with the desirability or otherwise of taking one or more ratoon crops in the same field, have not unfortunately received the attention which is due,* at the hands of the average cultivator. The consequence has been that the spectacular yields secured originally from the more improved varieties cannot be maintained from year to year, *and a rapid decline in growth and yield consequently follows.* With the weakening of the physiological processes in the cane due to malnutrition, even the disease-resisting varieties become more and more susceptible to diseases and pests and the inherent resistance power of the variety is apt to be lowered. As sugarcane is propagated asexually, there should not be any degeneration in the inherent qualities of the planted material. Due to the variability of the environmental conditions, however, the adaptability of the cane material might vary.

Manurial needs and a fresh survey require attention

It is well recognised that the Indian soils are generally deficient in nitrogen. This potash plus a little phosphate are the ones which the sugarcane plant takes up from the soil in large quantities for its normal growth and development. Unless these nutrients are supplied to the soil in adequate quantities, the soil is bound to be denuded of its fertility and cannot be expected to continue to produce normal crops of cane.

Sufficient quantities of valuable organic manures such as farmyard manure, compost manure and oil-cakes are not readily available in the country, and consequently it is of great importance that the nitrogen supply to the soil must be supplemented by green manure where possible, and by application of sulphate of ammonia. These are in short supply in certain areas and their use in the sugarcane fields has been restricted because of their diversion to food crops. *The supply of adequate quantities of sulphate of ammonia and of some quantities of Potassic and Phosphatic fertilisers, therefore, needs the highest priority for the development of the sugarcane industry.* The soil requirements vary from tract to tract and a careful working out of adequate manurial schedule for different tracts is of paramount importance. *A careful Survey of the different zones is urgently called for.*

Requirements of Water

Excepting in some parts of North Bihar, Bengal, Assam and Orissa, where cane can be grown under irrigated conditions, sugarcane needs sufficient irrigation from canals, surface or tube wells. Wider facilities for such irrigation and improvement of existing facilities as well as starting of new projects and sinking of more wells, therefore, demand quick attention.

Seeds

Production and distribution to the cultivator as well as the large-scale planters of approved disease-free seed is another essential step for placing the sugarcane industry in India on a sound footing. Establishment of seed nurseries at suitable centres is, therefore, one of the chief items for consideration of the Central as well as Provincial Governments.

Pests and Diseases

Pests and diseases continue to be major handicaps which the cane grower has to cope with. Damage to the extent of lakhs of rupees is caused annually to the sugarcane crop by these diseases. Extra assistance is therefore essential for keeping the cultivator advised of the efforts necessary and the varieties which should be grown in order to fight against pests and diseases. All these are important urgent problems facing the industry, and much cannot be achieved in these directions unless suitable and prompt action is directed on a large scale by a central agency. We hope and trust that the Government of India will give full facilities to the Indian Central Sugarcane Committee in order to enable it to chalk out short-term as well as long-term programmes of research for development of sugarcane cultivation along right lines.

Improvement of Cane Cultivation—Paramount need

We have stressed at great length the necessity of improvement of cultivation of cane with a view to improving the efficiency of cultivation and bringing down the cost of production of cane. We hope that the National Government installed in the centre will give suitable encouragement for the development of cultivation of cane in appreciation of the part played by the sugar industry in developing its capacity within a short period to an extent which has made India completely self-sufficient in the matter of this important article of diet to the

people of the country. The further development of this national industry, having a unique link with agriculture, should be planned and fostered by the Government who should also show their preparedness to undertake measures necessary for improvement of cultivation of cane from the funds which have been made available to it to the extent of about Rs. 48,00,000 per year out of the proceeds of the excise duty on sugar, in 1947-48, at the rate of Re. 0-4-0 per cwt.

Intensification of Research essential

The Indian Sugar Industry today is in a very enviable position for it has a guaranteed market for all the sugar and *gur* it produces. The technical efficiency achieved by the factories has been fairly satisfactory. But the same cannot be said in respect of cultivation of cane, and unless a rapid progress is made in this respect, the sugar industry as a whole cannot claim to have reached the position where it could stand firmly on its feet. In order to enable the Indian sugar industry to be placed on a sound footing and to cope successfully with outside competition, the prime need of the hour is the intensification of research, both technological and agricultural, and initiation and development of suitable schemes in sugar producing provinces without loss of time. There are adequate funds now at the disposal of the Indian Central Sugarcane Committee, and it should endeavour to carry the results of its research work in the sphere of cultivation of cane and technical efficiency of factories to the cultivator as well as the industry.

It is a matter of great pleasure to note from the Ministry of Agriculture that out of the temporary excise duty which accrued to the Government from the 1943, 1944, and 1946 ordinances, Rs. 75,00,000 have been reserved for expenditure on five year sugarcane development schemes of the various provinces. In addition, Rs. 50,00,000 have been earmarked for the Agricultural cum Technological Research Institute at Bhadrak, Lucknow. Rs. 15,00,000 have already been released to the Indian Central Sugarcane Committee by the Ministry of Agriculture for immediate expenditure during the year 1947-48 for establishment of this institute at Lucknow. Estimates have been called for from the Indian Central Sugarcane Committee for expenditure during 1948-49, and the Ministry of Agriculture will make allocations in this respect in due course.*

Conditions, therefore, appear to be very propitious for the undertaking of a programme of comprehensive research calculated to solve the chief problem of the sugar industry in India, namely, the problem of the high cost of production per acre, with a view to bring it in conformity with the cost prevalent in other important sugar producing countries of the world. We have no doubt that if proper steps are taken in this respect and vigorous attention of the Government of India in the Ministry of Agriculture continues to be applied to this industry, it will not be long before India can rank as the most important sugar producing country of the world, and be able to supply sugar at reasonable prices and in increased quantities, not only for her own requirements but also for the neighbouring countries.

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* It is very disappointing to learn of the intention of the Government of India in October 1948 to reduce the research grant to the previous level of one anna per cwt. of the excise duty on sugar. We hope the former grant will soon be restored.

PART II

MAIN PROBLEMS BEFORE THE SUGAR INDUSTRY AND LINES FOR ITS FUTURE DEVELOPMENT

Agricultural Improvement needed

The question of highest importance before the sugar industry at the present time is that of improvement of the cultivation of cane with a view (i) to augmenting the yield of cane per acre and (ii) reduction in the cost of its production. An intensive study of the agricultural conditions in India will point to the fact that India is largely a country of small peasants who follow the immemorial and traditional way of life. Agriculture in India cannot be an independent entity. Its development is part of the larger problem of rural development which must be tackled as a whole. For instance, it is interdependent with industry, a sound expansion of which is indispensable to any comprehensive programme for the advancement of agriculture. Besides, in view of the wide diversities in India of climates and soils, and of cultivation practices in irrigated and rain-fed areas, the Provinces and States concerned will have to evolve detailed plans suited to their areas and their conditions. The two main objectives to be borne in mind, however, in any scheme of agricultural improvement in India are (1) abolition of the poverty of the cultivator, and (2) abolition of the poverty of the soil. For achieving these objectives, the first essential is to avoid various wastes which exist at the present time, e.g. waste of fertilising material, water and soil, which will have to be cut out, and these natural resources will have to be utilised fully.

It is well known that inadequacy of food in India has resulted in one-third of the population of India, or over 100 million people being underfed in normal times, and the quality of food consumed is very unsatisfactory and under-balanced. To achieve national sufficiency in human foodstuffs, it would be essential to have immediate targets of increased production in order to provide the nutritional requirements for a suitably balanced diet in minimum quantity for the 320 odd millions of the Dominion of India.

Another grim factor staring us in the face is the low level of average production per acre in the case of most crops, including sugarcane. *Four-fifths of the total cultivated area depends partly on rainfall for the success of the crops.* In much of the area rainfall is either precarious or badly distributed. Due to this, the cultivator is unable to turn his land to the best use. He manures his crops inadequately, and in most cases not at all. Bulk of the cultivators do not use the most improved and best varieties of seeds, and the standard of cultivation is also low. Pests and diseases of crops persist. Weeds also flourish uncontrolled, and in sloping lands the soil is eroded and carried away through failure to control rainfall and surface by bunding and other means. The above are some of the directions which need early attention to improve the cultivation of cane as also other crops, in order to increase production from the land.

Utilisation of Water Resources

Firstly, maximum use will have to be made of water supply by harnessing the water of rivers, construction of irrigation canals, lifting

of water by mechanical means, construction of minor irrigation works, proper utilisation of rain water by control of erosion, etc. It is stated on good authority that the maximum utilisation of all sources of water would increase production by 10 per cent.

Better Utilisation of Land

Lands also will have to be utilised to the best advantage and higher crop yields will have to be obtained by improved methods of manuring and use of better seeds, improvement of agricultural practices, and control of pests and diseases. Proper manuring has produced in the rice crop increased yields per acre varying from 20 per cent to 150 per cent and taking India as a whole, an average increase of 30 per cent will be well within practical achievement in respect of all crops.

By the use of improved varieties of seeds, artificial fertilisers, etc. increased yields per acre of 10 per cent to 15 per cent can be easily obtained. An addition of 5 per cent on an average can be made by giving protection to the crops in the field from the ravages of pests and diseases. Consolidation of holdings will also contribute greatly towards increased production.

Smaller Area can give Larger Quantity of Cane

Turning to the question of sugarcane, we find that roughly the area under sugarcane in India has been varying from 3½ to 4½ million acres, depending on prices of cane and *gur* in relation to all alternative crops and possible climatic conditions at the time of planting. *No other country in the world has an equal area under sugarcane.* The cane crop, in the Dominion of India in 1947-48 was 35 lacs acres. The yield, however, is very small, the all-India yield only being 15 tons per acre as compared with over 50 tons in Java. There is thus scope for very great improvement in the yield of cane per acre in India. According to the Government sugarcane expert who carried out a survey of sugarcane research and development in 1945 it should be possible to increase the yield of cane to *800 mds.* per acre in the *U.P., Punjab and Bengal, 600 mds. per acre* in Bihar and *1,100 mds. per acre in the tropical areas within a period of 5 years.* There are many who feel that these estimates are on the lower side. The special officer appointed in 1943 by the Government of India, Dr. W. Burns, lately Agricultural Commissioner of the Government of India, to report on the technological possibilities of agricultural development in India stated that there was no doubt that the average yield of cane in India could be forced much higher than it was at present, particularly in areas where the climate was suitable. He estimated an average yield of about 40 tons per acre for the whole of India. *It is apparent from this that the yield of sugarcane in India, as a whole, could be doubled at least, with proper development.* In 1943-44, an area of 4 million acres produced 59 million tons of cane and if the Government sugarcane expert's estimate is accepted, the same area can produce 124 million tons of cane, within 5 years, provided all facilities are available. Thus there is a great scope for future improvement in sugarcane yield in the country and under an improved and organised system of sugar cultivation, the present requirement of the industry of 52 to 60 million tons of sugarcane can be made from a very much smaller area of land than at present and it would be possible to divert large areas of land now under cane

to food crops in view of the great necessity of increasing food production in the country. Some help in this direction can also be had from the production of palmyra sugar.

Apart from this, in white sugar production the major item is the cost of raw material, viz.: cane which is more than two-thirds of the total cost at present. Indeed, today it is as much as 60 to 70%. The cost of this raw material in India is, at present, very high and is not competitive with most of the other sugarcane countries of the world. The cost of cane can be brought down by increasing the present low acre yield which is almost the poorest in the world or by cheapening the cost of cultivation or by combination of both these means.

Detailed recommendations for increasing the acre yield and reducing the cost of cultivation have been made in this behalf and these deserve to be implemented at once by the Indian Central Sugarcane Committee. The following defects require careful attention in this connection.

(1) Lack of permanent or even long-term reserved areas for the factories in U.P. and Bihar.

(2) Lack of systematic plan for the utilisation of accumulative funds of the co-operative societies.

(3) Lack of concentrated attention to cane development work as compared to cane marketing work. (In U.P. the same staff does the work of development and marketing.)

(4) Lack of fertilisers, irrigation, crop-rotation, etc.

A survey of the research carried on so far in the various provinces shows that agricultural improvement has so far not been appreciable and this is due largely to lack of team work, lack of adequate financial assistance and lack of economic organisation. For instance, liberal funds are not provided for translating the results of the research to the fields of cultivators. This is of vital importance.

Peculiarities of Indian Agriculture

India is a country of small cultivators who are proverbially poor and the agricultural organisation is on a peasant basis with small holdings, with a high degree of indebtedness, and absence of fuel which compels the peasant to use up most of his potential manurial resources. The cultivator needs liberal loans at the right time which he is not being given although there is little risk involved in doing so, particularly in the case of sugarcane cultivators who are in the factory zones. Besides, as is well-known, the farmer has not the facilities for extensive cultivation nor the means to purchase manures, etc. to force yields. The fact cannot be ignored that agriculture must be organised in units sufficiently large and of adequate financial strength to render the application of technical knowledge feasible in practice.

Permanent areas in factory zones would be a very suitable basis for all developmental work in future. The permanency of such areas would give security to the factories and ensure to them ample supplies of good cane. The improvements in the zones can be made in many directions but the following are suggested for careful consideration of the authorities.

(1) Irrigation with financing schemes for the provision of cheap water by construction of wells, tanks, tube wells, etc.

(2) Manure particularly for tracts where rainfall is adequate and irrigation is available. A proper manure distribution organisation in the zone will give a farmer an increased net profit from the higher yields of cane and will benefit the factory by an assured supply of fresh cane from areas concentrated near the factories.

(3) Improvement of land by removal of the causes that prevent the economic utilisation of particular areas.

(4) Establishment of seed nurseries at suitable centres for dissemination of approved seeds to the zonal farmers. This sowing and seed distribution will promote growing of early, medium and late varieties of canes according to a schedule. The Indian Central Sugarcane Committee has recently recognised the merit of one year ratoons and has recommended them as a rich source of early supply to factories. Only a few recognised varieties which have proved their worth in the zones should be taken up and their large-scale distribution arranged.

(5) Efforts should be made to introduce improved cultural practices.

(6) Provision should be made for improvement of communications by building suitable roads in factory areas to prevent deterioration of cane carried on 'kuchha' roads, particularly as rail-borne supplies from distant places are now being curtailed due to difficulties in railway transport.

(7) Provision should be made for a planned protection service with adequate supplies of insecticides and fungicides, etc.

(8) And, above all, it should be noted that no plan of agricultural improvement can be executed without suitable technical personnel. A serious effort, therefore, should be made to train suitable personnel for this purpose.

Development suggested by the Advisory Board in March 1944

In our *Annual* for 1945-46 we have referred to a Memorandum on the Development of Agriculture and Animal Husbandry in India prepared by the Advisory Board of the Imperial Council, which states that with the necessary stimulus for continuous effort on the part of the cultivator and adequate finance, it seems reasonable to conclude that an increment of 50 per cent in production within ten years should be possible of attainment, and still further improvement can also be envisaged.

Peculiarities of Sugarcane Growth in India

In regard to sugarcane, it is grown throughout India. There are two distinct belts, the Indo-Gangetic Alluvium, which grows mostly thin cane, and the peninsula in the south, where thick canes are the chief type. Pests grow in the winter months and there is no check to the pests. Sugarcane can be planted throughout the year. In the northern belt, though the soil is perhaps more fertile, the crop is subject to extreme heat and cold. Progress in the improvement of sugarcane is possible by (1) spreading of improved cane over the whole sugarcane area (this has already been done—90 per cent already being under improved varieties now), (2) selection of varieties resistant of

pests and diseases, and (3) substitution of varieties that are still better in performance than the ones now in use.

In his Report on the Technological Possibilities of Agricultural Development in India, 1941, Dr. Burns states that it is possible to increase the average yield of sugarcane throughout India considerably, and gives the following table which indicates the yield of cane which should not be difficult to obtain in India :—

Area	*Potential average yield of cane Tons.*	
North-West Frontier Province ..	30 to 35	
Punjab	40 to 45	
United Provinces	27 to 35	
Bihar	25 to 35	
Bengal	35 to 40	
Madras	45 to 55	
Bombay }	45 to 55	for plant cane
Mysore }	70 to 80	for adsali

The actual extreme yield of cane which it is possible to obtain anywhere in the world is theoretically 192 tons per acre and this has been approached in Hawaii with an yield of 185 tons. In India over 100 tons were actually obtained on three of the competing farms in Bombay-Deccan in 1934.

Immediate Problem of Reducing Cost of Sugar and Sugarcane

Having given a general background of the agricultural conditions of India in relation to its cheif crops, we will refer in the succeeding pages to the various practical directions in which cultivation of cane can be improved and cost of production of cane brought down, with a view to ensuring production of cheap sugar and *gur* in increased quantities for meeting our growing requirements in the years to come. The Government of India, on a review of the growing requirements of sugar in the country, have fixed a target of production of 16 lacs tons, as against the present actual production of about 10½ lacs tons. In the world's sugar economy, which will have to be reconstituted as a result of the emergence of new conditions after the second world war, India can easily take a top ranking place as producer of sugar, and far from meeting its own requirements of sugar, can cater for the requirements of other countries, particularly in its vicinity, which are starved of supplies of sugar owing to the destruction caused in the various sugar producing countries like Java, Formosa and Philippines, whose capacity has been considerably curtailed thereby. If, however, we are to be enabled to play this role of an exporter of sugar to other countries, it would be essential for us to consolidate our position and to reorganise ourselves on modern lines with a view to effecting a *suitable reduction in the cost of production of sugarcane and sugar* by embarking upon short-term and also long-term plans of comprehensive research in cultivation all over the country.

Magnificent Role of Industry

By its magnificent contribution during the war period to the large demand of sugar both for military and civil needs, the Indian Sugar Industry has shown its remarkable powers of adjustability and resourcefulness. It is true that during the last few years production of sugar had gone down from the peak level of 1943-44, viz.: 12,16,000 tons, but that was due to domestic and temporary causes which can easily be remedied. In 1947-48, as a result of decontrol, the production has gone up to over 10½ lacs tons.

By its valuable contribution during the war period, the industry has proved its great utility and importance and entitled itself to special consideration in the future when plans for its further development will be executed. The prime necessity of the hour, as far as the industry in concerned, will be the replacement of the overworked and worn-out parts of the machinery and equipment by facilitating imports of the urgently needed items of machinery and other requisites, in order to ensure an uninterrupted, smooth and effective working of the industry in the future period. Plants and machinery will also have to be ordered from foreign countries for expansion of the present capacity. About 40 further units were sanctioned by the Government of India during the last 3 years, and the bulk of the machinery required for these plants will have to be imported from abroad, which will mean an outlay of not less than 15 crores of rupees. We have no doubt that the Government of India will give suitable facilities in this behalf in order to achieve the target of increased production within the next decade.

In this context, the fundamental need will be of bringing about a great improvement in the methods of cane cultivation, of introduction of early and late ripening varieties of cane in the vicinity of mills to enable factories to work for longer seasons of at least 5 to 6 months, augmenting transport facilities, and improving still further the technical efficiency in order to obtain higher recovery percentage of sugar. Encouragement will also have to be given to the utilisation of by-products like molasses and bagasse. Power Alcohol production needs immediate development and a Central Power Alcohol Act was passed in 1948. The concentration of the industry in the U.P. and Bihar was a great bottleneck in the war period for sometime owing to the lack of transport facilities. The only means of overcoming the transport difficulty and the high cost of freight and the handicap of over-concentration of mills in any particular area is the positive encouragement to establish more mills in other areas in accordance with the recommendations of the Sugar Panel, and the Government of India have recently allocated about 40 units, 30 in Indian Provinces and 10 in States, in order to develop production of sugar in deficit areas all over the country.

The industry's chief problem at the present time is proper planning and dispersal all over the country.

We will now turn to the question of localisation of the industry.

Localisation of the Industry

The most suitable geographical region for the growth of sugarcane is the tropical, as is evident from the large concentration of the sugar factories in the Dutch East Indies. In India, however, the region which is responsible for 92 out of 135 factories, which gives employment to 75

per cent of the total labour force, and produces about 75% of the total sugar in the country, extends over the U.P. and Bihar, while the Provinces of Bombay and Madras, which may correctly be called tropical areas and which are ideally suited for sugar, have not developed the industry to the same extent. The average yield in terms of *raw sugar* per acre is as high as 6,700 lbs. in Madras, 5,700 lbs. in Bombay, as against 2,500 lbs. and 2,300 lbs. in U.P. and Bihar respectively. Not only is the quality of the cane in Bombay and Madras superior to that of U.P. and Bihar, but the sugar recovery is also higher in Bombay than in most parts of the country. There are other counteracting factors. The wide range of alternative cash crops—groundnuts, cotton, plantains, chillies, tobacco and paddy in Madras—and the higher overall cost of sugar manufacture in Madras and of cultivation in Bombay, and the absence of big blocks for sugarcane cultivation in Madras and Bombay account for the smaller number of sugar mills in these regions. U.P. and Bihar had the advantage of compact sugarcane areas, and an early start when the industry was established in those regions, within the first two years of the grant of protection, and are now in a position to spare a large exportable surplus after meeting local demands.

We hold the view that except for some very special reasons like availability of large quantities of cane in suitable areas in the U.P. and Bihar, all future expansion of the industry must be in other parts of the country, so that the development of the industry would be more balanced, advantages well-distributed, and over-concentration of the industry in one area reduced.

Sugarcane—Necessity of Improvement in Cultivation and in Yield per Acre

The general conditions of sugar manufacture in India are peculiar and have hardly any parallel elsewhere. Mills in India, except in Bombay Presidency, do not generally produce the raw material, viz.: the cane as they do in Java and other countries from their own extensive plantations round about the factories but they depend on a large number of agriculturists with small holdings of land independent of each other and working without any definite system, industrious but lacking in capital, in resources and in scientific knowledge and consequently incapable, in the absence of any guidance either from the Government Departments or from the factory owners of making use of modern, up-to-date and efficient methods of cane-cultivation, crop-rotation, manuring, etc. This is a very essential factor which has to be borne in mind constantly in a study of the problems of sugarcane and of agricultural improvement in India. In devising various methods for improved cultivation of sugarcane varieties, care should be taken to see that the small cultivators do really understand and practice the methods and actually benefit by them. Improvements in the cultivation of cane should be planned, with a view to bring down the cost of cultivation, and to cheapen supplies of cane to factories.

Extension of Cane Area or Improvement?

A glance at the recent statistics of the area under cane cultivation in relation to the requirements of sugar and *gur* in India will indicate that the area under cane has shown some fall during the last five years due to the effects of the "Grow More Food" campaign of the Government

of India, and the fixation of lower minimum prices for cane, the returns from which were not as remunerative as from other crops. Even so, the present acreage under cane, namely, 35 lacs acres in 1947-48 (which is just about 2 per cent of the total cultivable area in India and approximately 32 per cent of the sugarcane area in the world) is sufficient for giving us the quantity of sugar that we need in the country for our internal consumption, now and for some time to come. It does not appear to us necessary *to increase the acreage under cane*, but it is of vital importance that the yield per acre should be improved with a view to lowering the cost of cultivation.

Encouragement of High Sucrose Cane or Heavy Yielding Varieties?

An important question affecting the sugar industry and the agricultural economy of the cane-grower in India at the present time has arisen, namely, whether cultivators should be encouraged to grow only such canes as possess high sucrose but are moderate in yield of cane per acre, or whether they should be encouraged to cultivate heavy yielding varieties even though they may be only moderate in sucrose content.*

It is necessary to remember that high yield of cane and high sucrose seldom go together and generally speaking, heavy yielding varieties which are now being cultivated by growers happen to be more satisfactory agriculturally as compared with high sucrose early varieties now available in the country. This is a vital question in view of the fact that in certain tracts no choice is being left with the cane-grower but to cultivate rather low yielding varieties because they have high sucrose, while in other tracts high yielding varieties are being encouraged in spite of their possessing rather poor sucrose. After a careful consideration of the entire question we are inclined to the view that as in other progressive cane-growing countries, *our goal should be to get more sugar per acre in the larger interests of the country.* It is well known that the minimum price of cane being fixed in India at a flat rate, the cane-grower suffers a lot in his income if the cane which he grows is a low yielder, e.g. Co. 313 in North Bihar, and he gets no premium for the growth of cane of high sucrose, which is generally poorer in yield. In Hawaii, more attention is paid to increase in yield of cane in order to get more sugar per acre, and during the last 15 years the yield of sugar per acre has gone up in Hawaii from 4.25 tons per acre by increasing the cane yields per acre, to 6.49 tons of sugar in 1936-37, in spite of a fall in recovery from 11.77% to 10.46%, due to the lower sucrose content of cane, between 1922-23 and 1936-37.†

Queensland, on the other hand, concentrates more on the increase of quality in order to get more sugar per acre. A comparison of the

* This question has been discussed at length in the "Report on the Survey of Sugarcane Research in India" by Mr. N. L Dutt, M.Sc., prepared for the Imperial Council of Agricultural Research in 1946.

† We find from the report of Mr. Clayton, Senior Mill Technologist from Australia, who visited the territory of Hawaii from the 14th March to 7th June 1948, on behalf of the Bureau of Sugar Experimenting Stations, referred to in the issue of the Australian Sugar Journal, dated 16th August 1948, that in Hawaii a high degree of mechanised field practices is being carried on and is yielding very satisfactory results. He states, for instance, that as a result of application of irrigation and generous application of fertilisers, the yield of cane became higher. *He has observed that the yields vary from 30 to nearly 100 tons per acre at the age of 22-24 months.* The sugar yields, according to him, *vary from 4 to 11 tons per acre.*

relative advantages derived from the above two methods of approach in Hawaii and Queensland is interesting. Hawaii concentrated on improvement in the yield of cane and got an increase of 53 per cent in total sugar per acre, while Queensland concentrated on improvement of the recovery and got an increase of only 23 per cent in total sugar per acre (2.44 tons of sugar per acre in 1924, as compared with 3.10 tons of sugar per acre in 1938 in Queensland). Apart from the obvious advantages of depending upon an increase in the yield of cane as a means of increasing the total sugar per acre, it might be said that there is a limit to the increase in the quality of cane, as also in the increase in the technical efficiency of factories. An increase in yield doubtless has its limits, too, but as we observed in a previous issue of our *Annual* (*vide* p. 74 of 1944 *Annual*), there are great potentialities of increase in the average yield of cane per acre in India, from 15 tons to 30-55 tons per acre in India. That is not to say that our quality of cane does not need improvement. It does, and very much. It would appear, however, that to achieve our aim of getting more sugar per acre, it would be more profitable to concentrate on improving the yield of cane per acre which admits of great possibilities, without sacrificing the quality of cane. The example of Hawaii, it seems to us, is well worth emulating. It is well known that the average growth of cane in India was only about 10 tons per acre before the advent of the Co. cane in 1918. With the spread of the Co. cane the yield has increased by about 50 per cent, i.e. from 10 to 15 tons per acre. The yield of cane in India, however, is yet very low as compared with Egypt and South Africa (and Java of course). These two former countries, which, like India (i.e. for over 80% of its cane area), are situated outside the tropics, grow the thin-medium canes. In 1936-37, the yield of cane per acre in Egypt was 30 tons, in South Africa 22 tons, while in India it was 14 tons. It 1936-37, the yield of sugar per acre in Egypt was 3.0 tons, in South Africa 2.43 tons, while in India it was 1.39 tons, *just about the lowest of all countries in the world.* The maximum yield of cane per acre in Java was 56 tons, and the yield of sugar per acre, 6.44 tons in 1936-37.

It must be remembered that the quality of cane in India is about the lowest as compared to the other countries, and the need of improving this is therefore the greatest.

Should Cane Prices be fixed on Weight, or should they vary according to the Varieties and Sucrose Contents?

So far the universal system adopted for payment of cane in India has been of payment at a flat rate per maund or ton, irrespective of the sucrose content of the cane, and the period of the season in which the cane is offered for supply. The Provincial Governments and the States which have fixed prices of cane, have done so on a flat basis, and the cane-growers have not had any premium given to them for supply of cane of higher sucrose content. Nor has any deduction been made for supply of cane of very low sucrose content. The interest of the factory of course lies in getting the maximum sugar out of a ton of cane, while the interest of the ryot lies in getting the maximum tonnage per acre of land. The result is that with the heavy yielding cane of low sucrose, the factory loses and the grower gains, while with the high sucrose cane, which is usually a moderate yielder, the position regarding profits is the reverse. *It is obvious, therefore, that there is a clash of*

interest between the grower and the factory-owner in India because cane is paid according to weight and not on sucrose basis, as is done in almost all the cane-growing countries. The interests of both parties, we suggest, should be reconciled in the larger interests of the country. The whole basis should be more sugar per acre as suggested before. If the industry is to thrive, a prolongation of the crushing season is absolutely essential and instead of the factories working 80-90 or 100 days in a season, they should be able to work at least 150 days in a year, in which case there should be sufficient supply of early maturing cane to enable factories to start crushing early, and late maturing cane, to enable them to work till late in the season. It is well known that early maturing canes are often low yielders, as a result of which the cane-grower is disinclined to cultivate them for fear of a poor overall return from his crop. It seems also true that the stage has not yet been reached in India when payment of cane can be universally made on sucrose basis, due to the astoundingly large number of small cultivators with whom factories have to deal, as also their illiteracy. At the same time it is easy to see that the cultivator would not be averse to take up the growing of high sucrose cane in preference to low yielding varieties, if he is paid a premium over the average rate fixed for cane, for such superior varieties. Some incentive should be afforded to him to grow low yielding cane, with a higher sucrose. High yielding cane ripens actually towards the middle of the season, that is, January-February, with the result that when this cane is crushed in November-December, it gives a low recovery because of lack of maturity. It seems, therefore, desirable in the larger national interests of the country to consider the practicability of the adoption at an early date, of a system of fixation of cane prices, according to varieties of cane and the month in which they are offered, irrespective of the difficulties that are inherent in its adoption at present. This point has been discussed in great detail by Mr. N. L. Dutt in his Report referred to in the preceding paragraphs, and we invite the immediate attention of the various Provincial Governments and the Indian Central Sugarcane Committee to this important aspect of the question in order that the industry in the country may thrive as a result of a more advantageous utilisation of the cane crop in its optimum state all throughout the season.

It would be of interest to note that in the 1947-48 crushing season in Madras, the minimum price of cane was linked up with the percentage of recovery of sugar and the net amount realised by factories on the sale of sugar produced in the season. In the U.P. and Bihar, only a flat price was fixed, namely, Rs. 2 per maund, irrespective of the quality of cane, the recovery of sucrose from it and the price realised for sugar manufactured from the cane.

Principal Agricultural Problems of the Industry

We will now discuss the main agricultural problems of the industry in India at the present time. These are (1) increase of yield of cane per acre, (2) improvement in the quality of cane, and (3) reduction in the cost of cultivation of cane. The first point that naturally crops up in regard to any consideration of the question of increasing the yield of cane per acre is whether we can ever aspire in India to reach the yields of cane obtainable in Hawaii or Java. In this context it should be noted that Hawaii and Java are situated in the tropical belt, while 85% of the cane-growing tract in India is in the sub-tropical region,

and this is no mean handicap of nature. Apart from the climatic limitations, there are other serious handicaps peculiar to this country, e.g. the prevailing system of land tenure, the fragmented and uneconomic holdings of land, illiteracy of the cultivators, uncertainty of rainfall, lack of proper irrigation facilities over a large part of the cane area, insufficiency of manure, lack of knowledge of crop rotation, etc. At the same time we are aware that with adequate irrigation facilities and supply of plentiful manure of suitable variety, yields of 60 tons and more have been obtained in the sub-tropical belt of Northern India by certain Government Research Stations and also by certain progressive cane-growers. In Bombay, for instance, in 1935-36 yields of cane of over 100 tons per acre were obtained when a competition was organised. It does not seem to be unlikely that if a generous provision is made for research work and if cane development is organised on sound lines, an average yield of about 800 maunds per acre can be obtained over the whole of U.P., Punjab and Bengal (as against 350 to 400 maunds per acre at present). The average yield in Bihar, which is mostly a rain-fed area, can also be increased to about 600 maunds per acre, while in tropical India the yield can be increased to 1,100 maunds per acre. If such development is vigorously continued, it will be possible to get higher yields still during the next decade.

In accordance with the expectation of Mr. N. L. Dutt, who has done valuable research work on sugarcane in Coimbatore under the guidance of Sir T. S. Venkataraman, the reputed scientist who has revolutionised the sugarcane industry of the country by the wonderful improvements made in respect of the quality of cane, it should not be impossible to obtain an yield of 1,100 maunds per acre in the sub-tropical areas and 1,400 maunds per acre in the tropical areas. This indicates how much yet remains to be achieved.

Dr. Burns' Target for Cane Yield—50 Tons per Acre

In his Report on the "Technical Possibilities of Agricultural Development in India", published in 1941, Dr. Burns, formerly Agricultural Commissioner to the Government of India, examined the question of improvement of the yields of various agricultural commodities. In so far as growth of cane was concerned, he also expressed the opinion that it could be increased from the present average of 15 tons to 30-55 tons per acre by the employment of available resources in the most useful way. The methods suggested for reaching the increased target were better manures, improved varieties of seeds and implements, control of crop rotation, more scientific cultivation and maximum utilisation of available fertilisers, water, labour, soil and livestock.

Variation in Prices of Different Qualities of Cane suggested

In regard to the second point, namely, improvement in the quality of cane, it is necessary to ensure that the sucrose content of cane is fairly uniform throughout the crushing season, and not very low at the beginning and towards the end of the season, as is the case at present. The ratoons and early varieties will generally need to be crushed in the early part of the season. The suggestion made for offering normal prices for these varieties, and for offering much lower prices for the mid-season cane in order to dissuade cultivators from offering unripe mid-season cane in the early part of the crushing season deserves serious consideration of the Provincial Governments. From January

onwards normal prices should be offered for the mid-season varieties, and in order to induce the cultivators for keeping late crushing cane in the fields for crushing towards the end of the season, a slightly higher price may be offered.

Increase in Yield of Tonnage and Cheapening Cost by Manuring, Ratooning, etc.

In regard to the third point, namely, reduction of the cost of cultivation, it should be noted that any improvement in the yield of tonnage of cane will certainly bring about a fall in the cost of production. Other methods suggested for consideration are: (1) Manual labour now largely in use for the entire agricultural operations should be substituted by labour-saving implements drawn by bullocks, (2) manures should be supplied at the proper time and in proper proportion to increase their efficiency, and (3) perhaps the most important way in which the cost of cultivation could be reduced is by resorting to the practice of *ratooning* and it has been seriously recommended that the research stations should devote greater attention to this aspect of the question in the years to come.

Increase in Cane Acreage not necessary—Palm Sugar Possibilities should be explored

We would also invite the attention of the readers to the observations made by Mr. N. L. Dutt in his Report referred to above, wherein he has recommended areas where sugarcane cultivation can be encouraged advantageously. After considering the various regions, namely, the U.P. and Bihar, Punjab, Bengal, N.-W.F.P., Bombay, Madras, etc. wherein there are more possibilities of encouraging sugarcane cultivation in some areas, he comes to the conclusion that as the average yields per acre in India are still very low, a great scope exists for the improvement of yield before thinking of increasing the area under cane in any tract. As we observed before, we feel that it will be possible for India to produce all the sugar it needs from its present crop if it is properly utilised, by progressive expansion in the yield and quality of cane, and it may not be necessary to increase the area under cane, which can safely be left for the cultivation of food-crops of which a very serious shortage has been noticed in the country of late. Indeed, if the yield per acre is raised appreciably and before long, and if the palm-trees * in the country are tapped for making sugar (this has been discussed in Part I), it seems to us that it would also be possible to release some of the present land under cane for the growth of foodcrops. We suggest an early investigation into this problem.

Diseases in Cane and Pests must be eradicated

In order to improve the yield as well as the quality of sugarcane it is imperative to eradicate the diseases in cane and pests. It is a matter of common knowledge that in respect of yield of cane per acre, its sucrose-content or average percentage of recovery of sugar from cane, we in India are still behind many other sugar producing countries, viz. Java, Cuba, Hawaii and the Philippines. Unless we are able in

* *Vide* Appendix III to "Problems of Sugar Industry in India" by M. P. Gandhi, with a foreword by Sir Purshotamdas Thakurdas, 1946; 425 pages, for details in regard to this matter.

a short time to effect considerable improvements in this direction, with the aid of organised research, it will not be possible for us to stand the vigorous competition of other advanced sugar producing countries in the years to come. Whether it is due to plantation of cane without a scientific system of rotation of the cane crop, absence of fertilisers and manure, lack of plentiful water supply either through irrigational canals or tube-wells, and diseases and pests—or a combination of any of the above factors—the fact remains that our cane crop at present is poor both in respect of quality and yield per acre. *The direct consequences of this are high cost of production of cane, low yield of sucrose-content of cane, and a great recurring national loss, valued at millions of rupees to the agricultural community in the country.*

Great damage is occasionally done by insect pests and diseases in various Provinces.* The sugarcane crop is easily susceptible to diseases. In some years the harm caused by pests and crop diseases is so widespread that it materially alters the fortunes of the cultivators and results in considerable reduction in output of sugar and yield of recovery percentage. This should be avoided as far as possible, by cultivating proper cane, and by organised research to combat these pests.

Education of Cultivators by Demonstration of Improved Methods

Apart from tackling by special means the problem of pests and diseases, there is a great necessity of undertaking other measures which would bring home to the cultivator the desirability of effecting improvements in the conditions of cultivation of cane. The average cultivator in India is hardly aware of the latest improved methods of cultivation or manuring or rotation of crops, or selection of suitable varieties to the soil, and the introduction of cross-breeding and hybridisation. He carries on in the traditional style from year to year unmindful of the revolutionary developments in other lands and unaware of the possibilities of improving his lot. Industrious but having no capital and implements, he works hard but the results have been poor compared with other countries. Improvement in quality of cane grown on the fields and reduction in the costs of cane cultivation are two important problems that face the agriculturist, the Government and the industry at present. In view of the importance it is the duty of the Government to devise suitable means of imparting instruction in modern methods of cultivation to the ryot and to make available to him the fruits of organised research with a view to improve his economic condition, and to establish the industry on a sound and firm basis. Although it is satisfactory to note the work done in this connection by the Sugarcane Research Stations at Coimbatore, Shahjahanpur, Muzaffarnagar, Karnal, Padegaon in the Deccan Canal area, Pusa, Bangalore, Hyderabad and many other places and although improvements have been effected in quality of cane grown in various Provinces, we feel that the time has definitely come when we should redouble our efforts to establish more intimate contacts with the cane-cultivator and to initiate him into modern methods of better farming by actual demonstration. For this purpose it is essential to establish a series of demonstration farms and nurseries in all cane-growing Provinces and Districts in order that they may devote their attention to the propagation of cane of higher tonnage of

* Red Rot disease of sugarcane appeared in the U.P. in epidemic form, and "Wilt" in Bihar, in 1946-47.

cane per acre, of early and late-ripening varieties for extending the cane-crushing season, of increasing the yields by suitable crop-rotation, provision of a suitable supply of water for the crop, early detection and eradication of crop pests, etc. These demonstration farms and centres should serve as the arteries from where trained agriculturists would tour round the surrounding districts in order to show or demonstrate efficient methods of cultivation and manuring suitable to the soil in the various places and would also distribute good and improved seed amongst the cultivators. An important function of these farms would be to conduct researches as to the easy methods of combating cane diseases and pests. In addition to this, the Provincial Governments should also undertake other allied work of effecting improvement by educating the ryot in the use of irrigation water, by extension of the canal system and by affording necessary assistance in tapping subterranean sources of supply of water, by offering supply of manure for his impoverished land, etc.

Tube-Well Irrigation Schemes

In 1947-48, in order to speed up the programme of tube-well construction as part of the "Grow More Food" campaign in East Punjab, U.P., and Bihar, the Government of India invited two American experts to advise and put up specific schemes for increasing the number of tube-wells in these provinces. The experts arrived in June 1948, and came to certain conclusions in consultation with technical officers concerned with tube-well construction in these three provinces. They have submitted a complete scheme late in the year for supplying water to crops under tube-wells on the basis of volume and not acreage so as to make the supply as economical as possible. The proper spacing of tube-wells situated near canals has also been thought of in order not to unduly depress the sub-soil spring supply. In addition to this, the possibility of construction of radial tube-wells was also considered.

6,000 New Tube-Wells planned

The Ministry of Agriculture, also announced in May 1948 a programme for construction of 6,000 tube-wells in various parts of the country over the next five years, as a part of the "Grow More Food" campaign. The lack of electric energy for tube-wells was proving the bottleneck.

The U.P. Government had 2,100 tube-wells and plans were prepared for 750 more. Power plant was also ordered worth Rs. 96 lakhs.

The Bihar Government had 134 tube-wells and plans were prepared for construction of 250 more.

Improvements in Cane Crop essential

The immediate necessities for the cane crop of India are (1) improvements aimed at lowering the cost of cultivation by increasing the tonnage per acre which in turn will give a better return to the cultivator, and (2) raising the quality, e.g. by producing varieties suited to various localities, having higher sucrose-content and greater resistance to diseases and pests so that they may command higher price from

sugar manufacturers.* The work of improvement on an organised scale should be undertaken in areas adjoining the sugar mills and such area gradually extended. The development of reserved and gate-areas of the sugar mills are likely to give immediate benefit both to the manufacturer and to the cane-grower. The ultimate success of the sugar industry hinges upon the ability to produce better and higher yields of sugarcane per acre since sugarcane forms the raw material of the industry and accounts for over 60 per cent of the cost of production. Improvements achieved in this field will be of lasting value and result in the cheapening of the prices of sugar. The extension of the present cane-crushing season of about 4 months to at least 6 to 7 months in the year by encouraging and promoting the growth of early and late ripening varieties of cane suitable to the climatic conditions of the various areas of production, will be of considerable help.

Valuable Educational Effect of Cane-crop

Although the total area under cane is now less than 3½ million acres, out of 200 odd million acres cultivated in the Union of India, the importance of the sugar-cane crop is out of all proportion to the small area which it occupies. It has a valuable educational effect on the cultivator.

Sir John Russell, in his Report on the work of the Imperial Council of Agricultural Research, in applying science to crop-production in India (1937), observed as follows: "The cultivator learns the advantages of modern varieties of crops, of fertilisers, of proper cultivation; the need to watch for plant diseases and to seek advice when he is in difficulties. The Agricultural Officer will have more chance of coming in touch with the sugarcane grower than he will with an ordinary small cultivator."

Indian Council's Valuable Work for Sugar Industry taken up by the Indian Central Sugarcane Committee from 1944

The Indian Council of Agricultural Research did very valuable work in the field of development of the sugarcane crop. The programme of the Council's work was (*a*) the selection of canes better suited to the important cane-growing districts than the existing local varieties, and improvement of their cultivation, (*b*) improvement of local methods of making *gur*, and (*c*) development of advisory and research services for the factories. Investigations on cane breeding were made with considerable success at Coimbatore by Sir T. S. Venkataraman, and since his retirement in 1943, this work is being carried on by Mr. N. L. Dutt who is in charge of the Coimbatore Research Station. Mr. Dutt's Report on the Survey of Sugarcane Research, 1946, to which we have made a reference elsewhere, is well worth a careful study in view of the excellent suggestions made therein in regard to various matters appertaining to the development of cane.

The work of the Indian Council, in so far as it appertains to sugar and sugarcane, has been taken over by the Indian Central Sugarcane Committee, established in 1944. For personnel, etc. we would invite

* It is a pity that yet no suitable method has been evolved whereby the cultivator of superior quality of cane would get a premium, over the fixed minimum price of cane.

a reference to the earlier portion of this *Annual* entitled "Indian Sugar Industry at a Glance" (*vide* page xxxiv, *et seq.*).

Resume of the Work of the Indian Central Sugarcane Committee in 1947-48

In our *Annual* for 1946-47 we gave a resume of the work of the Indian Central Sugarcane Committee during the year 1946-47. We give below a short note regarding the recent activities of the Indian Central Sugarcane Committee:

The 5th meeting of the Committee was held in October 1946, and the 6th meeting in February 1947. The 7th, 8th and 9th meetings were held during 1947-48 and the 10th meeting was held at New Delhi on the 9th October 1948. Sir Datar Singh presided over the meeting. The Hon. Shri Jairamdas Daulatram, Minister for Food and Agriculture, delivered the inaugural address.

In the Annual Report of the Indian Central Sugarcane Committee it is stated that with the formation of this Committee the responsibility of undertaking measures for improvement and development of sugarcane and its products in India and all matters allied thereto have devolved on the Committee. The activities of this Committee, therefore, include items such as agricultural, technological and economic research on sugarcane, improvement in the manufacturing process of *gur*, Khandsari sugar, white sugar and other by-products, crop forecast and statistics, production, distribution and testing of improved varieties of sugarcane, adoption of improved cultural practices, etc. In addition, the Committee maintains the Indian Institute of Sugar Technology at Kanpur, the only institute of its kind in India, both as teaching and research institution.

Protection to Sugar Industry favoured by Sugarcane Committee

We have already stated that the Indian Central Sugarcane Committee, at its meeting held in February 1947, forwarded a memorandum to the Tariff Board, 1947, pointing out that the consensus of opinion was that the protective duty should be continued *for a long time to come*, in the interest of development of the industry. It also pointed out that sugar was still in short supply and due to the advent of the Second World War the industry had not been able to take advantage of the protection and derive such benefit as was expected. It also stated that in the interest of the farmers of the country as a whole, protection was essential during peace-time as in war-time.

The Tariff Board endorsed this recommendation in its report and the Government have continued protection to the industry till 31st March 1949.

Research Scheme in Progress in 1946-47

The Annual Report of the Indian Central Sugarcane Committee for the year 1946-47 contains reference to the various research schemes. It points out, for instance, the activities of sugarcane research schemes of U.P., Madras, Bombay, Mysore, Coimbatore, Karnal, etc. It also refers to the sugar research and testing station at Bilari, and the scheme for research on the manufacture of sugarcandy at Ravalgaon. The report lays emphasis on the agricultural aspects of the industry and

lays stress on the improvement of cane cultivation by provision of adequate manure, water, seeds, etc. It also refers to the necessity of carrying on intensive cane research work and spreading improved high yielding disease-resisting varieties of cane, and devising measures to translate the results of research to the fields for controlling diseases, pests, etc. It also states that the Committee has taken necessary steps to provide funds for such work and expects to enlarge its activities with higher contributions expected from the Government of India.

In addition to subsidising research schemes, the Committee has also under consideration provincial schemes for developing the sugar-cane industry and contemplates to undertake expenditure of about Rs. 75,00,000 spread over a five-year period. The various Provincial Governments participating in this scheme have also agreed to spend for their development work an equal or larger share of this Committee's grants. As a result of the approach of the Committee, the Government of India have also made available to it a sum of Rs. 75,00,000 out of the temporary excise duty which accrued from the 1943, 1944 and 1946 Temporary Sugar Excise Duty Ordinances, and in addition, a sum of Rs. 50,00,000 has been earmarked for the agricultural-cum-technological research institute at Lucknow. We understand from the Ministry of Agriculture that a sum of Rs. 15,00,000 has already been released to the Committee for immediate expenditure during the year 1947-48 for establishment of this institute. Further allocation will be made by the Ministry of Agriculture to the Committee for its schemes as soon as estimates are received for the year 1948-49.

The development programme which the Committee propose to carry out with the co-operation of the Provincial Governments has been planned out by experts and it lays special stress on the following items :—

(i) Provision of adequate irrigation facilities for the sugarcane areas ;

(ii) establisment of seed nurseries to provide adequate quantities of disease-free seed of suitable varieties, including a seed multiplication programme indicating the area proposed to be covered with approved varieties within a specified period ;

(iii) provision of manures of the right type ;

(iv) provision of qualified and properly trained technical personnel to carry the results of research to the sugarcane growers ;

(v) provision of efficient watch and ward service for protection of the crop against pests and diseases ;

(vi) provision of zonal centres ; and

(vii) provision of a soil extension service, the objective being to provide, on the basis of soil analysis, advice to growers as regards the best use of the land and the nature of the fertilisers needed by it.

Pending allocations out of the special fund of Rs. 75,00,000 the Committee decided to allot similar amounts on a *pro rata* basis of white sugar production in the various areas.

Sugar Development Scheme in U.P.

Referring to the sugar development scheme in U.P., the report states that the total cane area reserved for the factories during 1945-46 was 8,78,000 acres. The policy of intensive development of within a radius of 10 miles of factories was continued, with the result that 79% of the total crush of factories was supplied at their gates. Attention was greatly concentrated on the development of 50-acre blocks, which resulted in yields of about 30-40% higher than the average yield of the grower. Distribution of cane seed was also arranged and 25,86,162 maunds of improved seed were distributed during 1946-47. Demonstration and intensive propaganda for application of improved manure were also conducted. Although transport difficulties and non-availability of manures acted as a great handicap, 1,85,000 maunds of cakes and fertilisers and 3,777 maunds of sun hemp were distributed. A small amount of Rs. 3,000 was also spent to combat epidemics in the mid-eastern and central ranges which affected 3,100 acres in 586 villages. There was also an attack of borers and pyrilla in certain areas which were brought under control by chemical and mechanical methods.

The report also refers to the results obtained on important problems tackled during the year, e.g. investigation on the causes of low purity, rise from raw juice to clarified juice in sulphitation factories in Northern India, continuous fermentation of molasses, manufacture of food yeast, and marmite, etc.

A comparative study of the Indian sugar cubes, manufacture of sugar plastics (the data so far obtained indicates that sugar plastics can advantageously be prepared) was also undertaken and is referred to in the report. It also gives sugar and sugarcane statistics, and a note on sugarcane prices from 1942-43 to 1946-47.

Increased Grant to the Indian Central Sugarcane Committee

As a result of the decision of the Government of India to increase the grant for purposes of research to the Indian Central Sugarcane Committee, at the rate of 4 annas per cwt. out of the excise duty on sugar, an amount of Rs. 47,85,250 was paid to the Committee by the Government of India for the year 1947-48, for the furtherance of sugarcane research and development. As it was not decided by Government whether this increased grant would be made available to the Committee as a permanent measure, further plans of extension of research and development were not finalised by the Committee till May 1948. We hope that the Government will earmark this amount for expenditure annually by *the Committee as a permanent measure*, to enable the Committee's work to continue unhampered. During the year 1948-49, an amount of about Rs. 52,00,000 should be ordinarily made available for the Committee, on the above basis of 4 annas per cwt. *or roughly equivalent to Re. 1-8-0 per acre under cane.*

Indian Institute of Sugar Technology to be Established

During the year 1948 further progress was made in the direction of establishment of the Indian Institute of Sugar Technology at Lucknow. It will be of interest to give a short history of this matter here.

New Institute of Technological Research at Lucknow

The Indian Sugar Committee of 1920 had visualised the establishment in India of a Sugarcane Research Institute and a Technological Institute linked with it. With the advent of the Imperial Council of Agricultural Research, the Technological Institute gradually developed at Kanpur, while a chain of sugarcane research stations were financed by the Council in the major sugarcane growing provinces. This state of affairs continued until the Indian Central Sugarcane Committee was formed, when it took over from the Imperial Council of Agricultural Research, all the work connected with sugarcane and sugar research. The original conception of the Indian Sugar Committee of 1920 regarding the establishment of a Sugarcane Research Institute and the Technological Institute linked with it received a new fillip with the formation of the Indian Central Sugarcane Committee in 1944. As it was, the Indian Institute of Sugar Technology had not even its own independent buildings and laboratories and it has functioned and is still (November 1948) continuing to function in a portion of the Harcourt Butler Technological Institute under an arrangement with the U.P. Government.

At a meeting of the Indian Central Sugarcane Committee the whole question was thoroughly discussed and after prolonged deliberations, the Committee decided to have buildings and laboratories of its own for the Indian Institute of Sugar Technology and also to have a Sugarcane Research Institute of its own, both located at one place and linked with each other. The question of location of the twin institutes was finally settled after a mature consideration and after carefully examining the claims of several places, such as, Lucknow, Meerut, Gorakhpur, etc. the members of Committee representing varied interests and provinces ultimately decided that Lucknow was the most suitable site. The Indian Central Sugarcane Committee accordingly appointed an *Ad Hoc* Sub-Committee under the Chairmanship of Sir T. S. Venkataraman for selecting a suitable site at or around Lucknow.

Several sites were examined for this purpose, including the Air Field near Bakshi-ka-Talab, and the Committee approved of the site (discovered by Mr. S. C. Roy, Director of the Kanpur Institute) which was previously a Military Grass and Dairy Farm at Bhadruk near the District Jail, Lucknow. This place is on the Lucknow-Rae-Bareilly Road, about 2½ miles from the Lucknow Junction Railway Station, is one stretch of compact land about 553 acres in area, is in close proximity to Lucknow and has the Sarada Canal running at its border.

Rs. 50 lakhs Grant by the Government of India to Lucknow Institute

The site having been secured in 1948, the Indian Central Sugarcane Committee was faced with the problem of planning and building the two institutes on the most up-to-date lines. The Committee therefore appointed an *Ad Hoc* Committee under the Chairmanship of Sir Datar Singh to go into this question very thoroughly. This Committee visited the site in August 1948, and came to the conclusion that it would be helpful, before putting up a building, if a study was made of the layout, design, organisation, working, etc. of some other Technological Sugar Research Institutes in other countries of the world. To achieve this object it was decided to send a two-man delegation led by Sir T. S. Venkataraman to foreign countries for collecting necessary data regarding the design and layout of this Institute of Technological Research at

Lucknow, which is expected to be the largest of its kind in the whole of Asia.

As has been observed before, the Government of India have already earmarked a sum of Rs. 50,00,000 to be utilised for establishment of this institute, and Rs. 15 lakhs has already been made available during this year (1948). It is expected that the total cost for a residential institute of this kind contemplated may be higher than estimated, and we have no doubt that the Government of India will consider the matter favourably and make a larger amount available for this purpose, if necessary. We also hope that this institute will be established before long at Lucknow, the capital city of the largest sugar producing province in India, and start functioning at an early date.

Research on Cane at the Coimbatore Sugarcane Breeding Station, 1946-47

We will first refer to the improvement of cane for sub-tropical areas. The bulk of the area under sugarcane in India (about 80 per cent) is in Northern India, and the Coimbatore Station had naturally to direct its attention first to the class of cane in the U.P., Bihar and Punjab. The average yield of cane was about 10 tons per acre, while the improved canes in Java and other countries yielded about 4-6 times as much.

The growth conditions in the Indian sugarcane area (largely sub-tropical) differ in important respects from those obtaining in other tropical sugarcane growing countries of the world. The growth period is very short, canes are generally planted in February and March and commence their life in extremely severe summer conditions which greatly inhibit growth. The crop gets a real chance to grow only in the monsoon rains of June-July. At the other end a fairly severe winter (accompanied by frost in the western regions) practically stops growth from the end of November. The total growth period thus corresponds roughly to about 6 months of normal growing, whereas in tropical parts of the world sugarcane grows almost uninterrupted for 12 to 16 months, and in Hawaii even to 24 months.

One outstanding characteristic of the breeding work at Coimbatore has been the range of parents which it has been able to employ in its breeding programme. It was the first Sugarcane Station in the world to deliberately employ the wild Kans and to raise an intergeneric hybrid.

It must be stated that the enthusiastic manner in which breeding programmes have been pursued in Coimbatore has borne substantial fruits in that some varieties evolved at the station have proved largely successful as compared with the indigenous canes. In 1928-29 the improved Co. canes occupied 11.6 per cent of the cane area in India, and in 1935-36 they occupied 76 per cent of the area. There are now several individual important tracts where Co. canes occupy more than 90 per cent of the area. There is, perhaps, no other economic crop in which such an advance has been registered in India. The higher yield of Co. canes has reflected itself in the higher overall average of cane yield in India. The present all-India average is about 15 tons per acre, as against 10 tons before the advent of the Co. canes. The money value of this increase to the Indian cultivator, even at a moderate estimate, comes to Rs. 15 crores per year.

The main canes in U.P. in recent years are Co. 312, Co. 290, Co. 421, and Co. 370. In Bihar, Co. 210, Co. 213 and Co. 214 at once became popular and replaced the indigenous canes. After the Red Rot epidemic in 1939 the main canes in North Bihar and South Bihar are Co. 313 and Co. 453 respectively.

Though the area under cane in the tropical province like Madras, Bombay and Orissa and the States of Hyderabad and Mysore, is relatively small as compared to the main cane-growing province in Northern India, yet it is by no means insignificant in the aggregate. The types of cane grown are the thick tropical ones which yield fairly satisfactorily. The first batch of thick Co. canes was distributed in 1931, and since 1933 Co. 419 has become popular and successful in the tropical areas of India. It has replaced the Pundia in the Deccan Canal Tract and is now the main cane in that area. It is also grown in the factory area of Hyderabad State, while in the Mysore factory 80 per cent of the cane milled is Co. 419. The other canes of this series which are doing well in other localities are Co. 421 and Co. 453, the former in Western U.P. and the latter in South Bihar. The Coimbatore Station has also undertaken Morphological, Cyto-genetical, Physiological and Chemical studies of canes during recent years.

The Coimbatore Sugarcane Station has established an excellent reputation in sugarcane breeding all over the world. It deserves suitable help in the matter of staff, equipment and resources, in order to expand its scientific work and to raise its status to that of a first class self-contained institution of research. The greater the equipment at Coimbatore, the greater will be its service to the sugar industry. We earnestly hope that from the larger funds placed at the disposal of the Indian Central Sugarcane Committee, a liberal grant will be made to this Station in the years to come.

Mr. N. L. Dutt on Improvement of Cane Yields on Cane-growers' Farms

Before we conclude this paragraph, we would like to refer to the Presidential Address of Mr. N. L. Dutt, Sugarcane Expert at Coimbatore, delivered at the 34th Indian Science Congress held in Delhi in 1947, where he has referred to the question of cane development in India and has pointed out a big gap which exists between acre yields as obtained by the average cane-grower and by the Sugarcane Research Stations, or by progressive cultivators, or at factory farms. He has referred to the lack of interest in cane development which has resulted in poor cane crop and indifferent raw material being supplied to the factories.

Mr. Dutt has stated in unequivocal terms that until this gap is filled, the sugar industry will not be able to stand on its own legs and to produce sugar at competitive prices for, the major part of the cost of production of sugar is the cost of raw material. He has also suggested various methods for improving the position, namely, only approved varieties should be cultivated by discouraging undesirable varieties, and the main cane in each tract should be essentially a great yielder and not calculated merely to give high recoveries. No new variety should be released for general cultivation which has not passed through the Zonal Trial and for which a proper Mill Test has not been conducted. Cane development work should be judged by the growth of the crop

in the whole area of the zone, and not by the growth of the Demónstration Plots alone, etc. He has also referred to the necessity of growing early, mid-season and late varieties of cane, for extension of the crushing season. He has suggested that the early variety should occupy 30 per cent of the area and should be crushed in the first month. The ratoons should be crushed in the second month. Only the main and mid-season variety should be ratooned from the third month harvest. Thus, only 25 per cent of the area will be under ratoons, and one ratoon should be taken. The area under the late variety should be only 20 per cent of the total area and should be crushed in the fourth month. He has observed that the cost of cultivation of ratoons is much less than that of plant crop. The ratoon, therefore, is a great factor in reducing the cost of cultivation and is essential for the success of the industry. But Mr. Dutt has pointed out that the ratoons should not be grown merely as a "free" crop, and should receive proper cultural, manurial and other care. He has sounded a note of warning, however, that ratooning should be suspended in the event of outbreak of diseases, such as Red Rot or Smut. According to him there is a definite place for one ratoon in planned cane growing and it should be crushed in the early part of the crushing season, and on no account be allowed to linger till the beginning of February or thereafter.

Mr. Dutt has also referred in his Presidential Address, to the remarks made by Sir Purshotamdas Thakurdas, in his foreword to Mr. M. P. Gandhi's "Problems of Sugar Industry in India—Scope and Prospects of Reorganisation in Post-war Period" (published in 1945), and has endorsed his observations that the utilisation of molasses and obtaining of greater yield of cane per acre are the two main factors for the success of the industry.

Development and Marketing of Sugarcane in U.P. in 1946-47

The total area under cane development scheme was 845.90 thousand acres out of the total area of 959.70 thousand acres reserved for the factories. Out of 65 factories, no development work exists in 6 factories of the Eastern Range and in a number of cases the work could be taken up only in part. The basis of development work was the 50 acre blocks in each zone where the yield was higher by about 30 to 40 per cent over the average yield of cane. These blocks served as seed nurseries for the supply of improved, tested, disease-free seed and proved of greater demonstrative value in improving the general standard of cane cultivation. Zonal trials laid in various zones numbered 107 including varietal, manurial, ratooning and others. Sowing in lines with proper spacing is a common practice now. Application of improved manures, and use of improved implements was restricted by their non-availability and the difficulties of transport.

The rainfall was scanty in the beginning and affected the crops adversely. Later the rainfall was heavy, resulting in water-logging and spread of Red-Rot disease ranging in intensity in almost all the Ranges. The attack was however severe in Eastern, Central and Mid-Eastern Ranges. Timely steps were taken to control the disease with good results. Yield and factory were naturally adversely affected.

Insect, pests and diseases.—There was a heavy attack of Pyrilla in all the zones of the Western Range and covered an area of 66,636 acres in 1,423 villages. Control measures were applied with success.

Distribution of cane seed.—In spite of difficulties of transport 25,86,162 maunds of improved cane seed was distributed during the year as compared with 21,52,869 maunds of last year. Only varieties recommended by the Regional Committees for different regions were distributed.

Distribution of manure.—Transport difficulties and non-availability was again handicap in the distribution of manures. The quantities indented by the Ranges could not be supplied in full resulting in a slight fall in distribution of manures. In all 1,85,574 maunds of cakes and fertilizers as against 2,04,907 maunds of the previous year was distributed. Sanai Seed distribution during the year was 3,777 maunds.

Implements.—19,375 implements were distributed during the year as against 14,935 of the last year.

Subsidy.—Subsidy amounting to Rs. 1,96,553/4/9 on cane seed and fertilizer was distributed during the year.

Publicity.—Steps have been taken for the supply of 16 m.m. movie films for demonstrating improved methods of cultivation, manuring, and control methods of chief pests and diseases of the cane crop. Lack of funds and proper organisation of publicity are the two main weaknesses.

Marketing.—To maximise sugar production the factories were allowed unrestricted crush. But full benefits of development could not accrue to the factories in the form of increased crush due to reasons beyond control. Total yield of the cane during the year was 2,576 lakhs maunds out of which as a result of strenuous effort only 1438.29 lakhs maunds could be crushed by factories. This, however, is an improvement over last year's figure of 1393.90 lakhs maunds. Out of total crush Co-operative Societies supplied 1160.30 lakhs maunds, i.e. 80.70 per cent of the total crush. The average recovery for the Province was 10.02 per cent of cane.

The policy of the department was to secure maximum crush to the factories from the gate areas and to reduce the transport by rail and road to the minimum.

Transport.—The Railways agreed to relax restrictions on loading within 10 miles and beyond 25 miles of the factory gate and opened a few additional stations also, but the allotment of wagons formed only 85 per cent of the total demand and even the quota allotted could not be utilized to the full. Out of 186.39 lakhs maunds of cane on O. & T. Railway only 146.46 lakhs maunds could be lifted due to irregular running of trains and weak engine power.

Cane Crop.—There were 93 Co-operative Societies with a membership of 8,67,84 spread over 22,939 villages. They supplied 80.7 per cent of the total crush. The working capital of the Unions has increased from Rs. 86,48,370 of the preceding year to Rs. 1,08,98,655. The reserve and other funds of the Unions amount to Rs. 45,66,317 and the share capital to Rs. 17,83,143 as against Rs. 37,62,995 and Rs. 14,72,820 of the last year. The owned capital of the Unions is Rs. 63,49,440. The income of the Unions during the year was Rs. 48,14,658 and expenditure Rs. 41,93,774. The Unions made a profit of Rs. 6.21 lakhs against Rs. 5.5 lakhs of the previous year though the smaller unit worked at a loss.

During the year total amounts of loans advanced by the Unions to the growers of the Unions comes to Rs. 48,67,863 as against Rs. 32,29,394 of the last year which means an increase of roughly 50 per cent in Co-operative financing of crops.

Breaches of Sugarcane Rules.—Number of breaches of rules were fairly large during the year. The most common breaches were under-weighments, poaching of cane, inequitable purchases, delayed and irregular payments of cane price, detention of carts and absence of amenities and facilities of approach roads and parking grounds.

We give below a short resume of the research work done at the Sugarcane Research Station, Shajahanpur. It shows the progress made during the year 1946-47.

A Resume of Research work done on Sugarcane in the United Provinces—1946-47

1. *Seedling and Varietal.*—Hybridized seed of 5 crosses received from Coimbatore gave 2,525 new seedling varieties of the 1947-batch. From the 1946-batch, 152 varieties and from the 1945-batch 27 varieties have been selected for further testing and multiplication. In the varietal trial, CoS. 309, Co. 562 and CoS. 321 have given on the whole the best results and the first two of these have been issued to zonal centres for multiplication.

2. *Agronomical.*—In the N.P.K. experiment, as in earlier years, the 100 lb.N. per acre dose showed marked response; phosphates and potash applications did not show any response. In the groundnut cake dosage experiment, the increase in yield due to the cake was 2.4 maunds of cane per lb. of N., confirming previous results. Irrigation after planting mitigates losses in yield due to late planting, but this irrigation becomes superfluous if the hot weather following is mild and there are frequent showers. Yields of cane after sanai green manuring were more or less the same for October mid and late January or February plantings, but December-planted cane gave lower yields. Yields of cane fall rapidly with every delay in planting after February. The maximum yield test on Co. 453 gave 1,500 maunds cane per acre.

3. *Chemical.*—Studies in the availability of different organic and inorganic manures applied to the field revealed that in both types of manures, nitrogen became available to the crop about a month after the application of the manure. The nitrates were highest in May, gradually declining thereafter. Plots treated with inorganic manures showed the highest nitrate content in the pre-monsoon season (February to May); plots manured with oil-cakes came next in order, followed by those manured with bulky organics, while the unmanured control had the lowest nitrate content. Yield of cane showed the same order. In a study of seasonal fluctuations of bacterial population in the soil, the number of bacteria was found to be higher in plots manured with farmyard manure than in those manured with ammonium sulphate and in unmanured plots, both under cropped and fallow conditions. Microbiological activity in the soil was highest in May, and also in September-October. Soil nitrates p.p.m. were also maximum during these months.

4. *Physiological.*—A comparison of the growth qualities of six varieties under deficient and normal irrigation conditions during the pre-

monsoon period showed that Co. 453 was the best and also gave the highest yield both under deficient and normal irrigation treatments. In April plantings, unsoaked setts with an additional irrigation after planting showed the maximum improvement in germination and yield, and soaked setts without irrigation after planting were the second best. In an experiment on the time of planting different varieties, the best yields were obtained from end-February plantings and the poorest from April plantings.

5. *Mycological.*—Red-rot, wilt and smut were the major diseases observed in the United Provinces. There was an outbreak of red-rot in many zones during the year. Co. 213, Co. 312, Co. 210, Co. 214, Co. 331, CoS. 146 and certain *desi* canes showed heavy infestation. Isolations yielded only the virulent light strain of the red-rot fungus. Smut was mostly observed on Co. 300, Co. 313 and Co. 513 in Burhwal, Gauribazaar, Jarwal Road, and Faizabad. Co. 213, CoS. 311, Co. 312 and Co.557 at Shahjahanpur and Co. 213 at Gorakhpur were found to be highly susceptible to the light strain of red-rot. The dark strain of red-rot caused very low infection. Four strains of wilt were studied at Shahjahanpur against 10 varieties. Neither varieties nor the strains of wilt showed any marked differences. Application of lime for controlling wilt did not give any significant results at Gorakhpur. A campaign for the control of red-rot was conducted in areas affected by the disease, and standard control measures were popularised among the cane-growers through leaflets and articles.

6. *Entomological.*—Studies on pyrilla in relation to weather conditions showed that nymphs survived well due to the mild summer conditions, and heavy multiplication occurred from October to December; the low mortality of nymphs in the cold season 1946-47 resulted in a heavy initial population of pyrilla adults in April, thus constituting a serious menace to ratoon crops in the western United Provinces, Studies on pests in relation to weather conditions showed that the heavy population of stem borers in May and June decreased with the progress of monsoon, while there was an increase in the population of top borer. Root borers were most active in October. In termitifuge experiments, phenyle and lime-plus-lead arsenate afforded considerable protection to buds from termite attack.

7. *Soil Studies.*—Detailed soil surveys of two more Cane Development Zones in Gorakhpur district have been carried out and soil maps of these zones prepared. Intensive soil survey in all the five factory gate zones of Basti district has been started and the detailed analysis of soils is in progress. The morphological study of 45 profiles reveals the occurrence of four types of soils in the district. A comparison of the R.C.M. technique of soil analysis with the orthodox methods has been taken up for Basti soils. The performance of different cane varieties in regard to yield, maturity and sucrose content show marked variations in the different zones. Two field manurial trials have been laid out in the mid-eastern range.

8. *Varietal and Agronomical Studies, Muzaffarnagar.*—In the varietal trial CoS. 321 gave the highest yield surpassing Co. 313 in cane and sugar outturns per acre. Progressively increased yields of cane were obtained in response to increasing doses of castor cake from 0 to 180 lb.N. per acre. Ammonium nitrate and castor cake compared well with ammonium sulphate as fertilizers for cane. There was a

general decline in the effectiveness of the manure with increasing doses of N. applied to ratoons. The possibility of taking a wheat crop after harvesting an early variety of cane in October was tested and proved; the loss in yield of cane is more than compensated by the income from the wheat crop following cane.

9. *Varietal and Agronomical Studies, Gorakhpur.*—At Gorakhpur, in the varietal trial CoS. 321 was found promising enough for further trial, and has been sent out for zonal trials. In the ratooning experiment, ratoons gave about 11 per cent lower yield than plant cane. Nitrogen applications at 120 and 60 lb.N. per acre were significantly superior to control. In the general manural trial, 200 lb.N. per acre as ammonium sulphate gave the best yield. In the maximum yield test, autumn planting gave 7 per cent higher yield than spring planting.

10. *Ratooning experiment, Kalai.*—Manured ratoons had more tillers per stool than plant cane and unmanured ratoons. The yield of plant cane was 11, 19 and 25 per cent higher that 1st, 2nd and 3rd year manured ratoons, respectively. An application of 100 lb.N. per acre increased the yield of ratoon by 171 per cent. Plant cane segregated from ratoons gave 98 maunds more yield per acre than plant cane contiguous to ratoons.

11. *Zonal trials.*—In the zonal varietal trials of the Eastern Range, Co. 453 gave the highest tonnage at all the centres, generally followed by P.O.J. 2878 and CoS. 109, Co. 453 also gave the best juice quality next to Co. 513. In the Mid-eastern Range, Co. 453 topped the list in yields. In the Central Range, Co. 421 was the best yielder in 3 out of 5 centres. Co. 453 was the next best. In juice quality CoS. 146 was the best, followed by CoS. 245, Co. 527 and Co. 313. CoS. 186 gave very encouraging results in the Rohilkhand Range. CoS. 245 gave a good performance in the Western Range. Co. 453 was the best as a ratoon in all the ranges, except the western where CoS. 245 and Co. 453 were the best.

In manurial dosage trials (zonal) there was generally an increasing response to ammonium sulphate and castor cake (with and without a basal dressing of farmyard manure) upto the aggregate top dose of 120 lb.N. per acre. In the Eastern and Mid-eastern Ranges, however, marked response was obtained only upto 100 lb.N. per acre.

12. *Cultivators' field trials.*—Planting in rows generally gave better yields than the cultivators' method of planting, and yields timely planted plots were better than in late planted ones. *Sanai* green-manuring gave increased tonnage in almost all the experiments conducted, and ratoon yields were improved by proper cultivation, manuring and irrigation.

13. *Milling Tests of varieties.*—During the year, 18 factories conducted 73 complete milling tests on different varieties. While Co. 313 generally holds the field as a high-sugared variety in the province, Co. 453 has shown a very good performance in the Eastern, Mid-eastern and Western Ranges. Co. 527 and Co. 313 gave the best results at Gola. In the Western Range CoS. 245 came out better than Co. 312 and Co. 453 better than Co. 421.

Cane Development in Bihar in 1947-48

The following note indicates the sugarcane development work in Bihar during 1947-48:

NOTE ON SUGARCANE DEVELOPMENT WORK IN BIHAR DURING THE YEAR 1947-48

With the gradual replacement of Co. 331 in South Bihar and Co. 313 and Co. 513 in North Bihar with Co. 453 and B.O. 11, both the tonnage and sugar per acre have risen. Besides the beneficial effect of large-scale seed movement from North into South Bihar during 1945-46 has reflected itself in both quantity of cane crushed as also the sugar recovery output during the year under report. The South Bihar factories crushed 63.5 lakhs maunds of cane against 30 lakhs maunds of last season. Similarly the sugar manufactured was 6.04 lakhs maunds against 2.75 lakhs maunds last season, the sugar recovery for the two years being 9.53 against 9.12 respectively. The yield potential survey during the year showed acre-yield to rise by 4.3 tons in South Bihar and 3.2 tons in North Bihar. Further, the yields in the demonstration plots, which represent varying degrees of adoption of improved schedule of cultivation were generally of the order of 17.9 tons, 21.6 tons and 20.8 tons in Co. 313, Co. 453 and B.O. 11.

With a view to reach in time adequate supplies of manure and fertilizers of the right kind to the sugar industry arrangements were made at high government level to obtain wagon priorities and expeditious movement. Besides increased quotas of both ammonium sulphate and ammophos were obtained with the result that the manure and fertilizer position showed a definite improvement over last year. This problem of adequate supplies, however, was by no means solved and would need far more effort and resources to meet the demand. Oil-cake was in short supply in the province and would definitely need to be augmented from supplies from Madras, Bombay and elsewhere.

Traction power continued to be weak owing to large depletion in cattle wealth of the province during the war years. Factory estates were, however, getting over the difficulty by indenting large number of tractors and equipment not only for estate use but also hiring them out to the growers in their respective reserved areas. This was a move the full benefits of which will be reaped by the industry almost immediately.

Targets of increased Production of Cane and Sugar

The most notable feature of the year under report, however, was the decision of Government to constitute a Sugarcane Development Committee with a view to formulate a five-year plan of Sugarcane Development with definite targets and execute it to the advantage of the industry. The targets of production fixed for the first five-year period are 20 tons of cane to the acre, 120 days season and 12 per cent sugar in bags against the present production level of 14 tons of cane to the acre, 70 days crush and 10.0 per cent sugar in bags. The disintegrated yearly targets would be 16 tons in the third year, 18 tons in the fourth year and 20 tons in the fifth year with sugar rising from 11 to 12 per cent and days from 90 to 120 during the same period. Both South Bihar and Champaran are likely to achieve these targets a year earlier. Saran district is rather difficult as both scanty and excessive rainfall affect its production adversely and amelioration of

soil type is a much more complicated affair than elsewhere in the white sugar belt of the Province and will, therefore, need more intensive development. The plan further provides for the following means to achieve the targetted production :

(1) Seed nurseries development in each factory area with a view to ensure rapid multiplication and saturation of the area in a period of three years with improved varieties, creation of a body of village seedmen.

(2) Adequate cultivation of land and provision of traction power and equipment.

(3) Adequate and timely supplies of manure of the right type.

(4) Irrigation facilities : protective irrigation in the first five-year period.

(5) Provision of soil extension service.

(6) Provision of Watch and Ward Service.

(7) Provision of zonal centres to cater to appreciation and solution of regional problems.

(8) Adequate provision of qualified and properly trained personnel both for departmental and factory use.

(9) Intensification of breeding programme and production of new varieties combining high tonnage and high sucrose and also pest and disease resistance.

(10) Crop costings and maintenance of crop statistics.

(11) Liaison office and information Bureau which will serve as warehouse of all information and impart it to the milling and growing industry periodically.

With a view to achieve the desired results the present system and disposition of the cane development staff will need a radical change. Demonstration work on the present small scale will have to be replaced by intensive work in each village doing sugarcane and the future promotions and prospects of each worker will depend upon what he achieves in the five-year period.

Obviously to do this, the present apathy between this staff and the factory staff has to be eliminated and both will need to conjointly work to produce the desired result. Overseers must necessarily live in factory premises and Kamdars in a village. Necessary wherewithal must be ensured to the village worker at the right time. Constructive supervision must be exercised by all concerned to enable timely steps being taken. Each kamdar will have a group of villages under his charge and shall be responsible for achieving the yearly targets, his progress being assessed by either increased yield per acre or both increase in area as well as production, as the case may be, in different factory areas. In the ultimate working, each factory will become an individual unit whose problems will receive fullest consideration before village targets are disintegrated and allotments made. With a view to register yearly progress, an independent and reliable agency whose verdict will be accepted by all concerned will need to be brought into being. This will deal with both area statistics and acre yields and its existence will save much negative thought and criticism. Co-operative unions which are at present primarily "commission unions" shall become centres of development work to serve as model.

Besides effective road communication in the factory reserved areas was provided to ensure best utilization of the crop, it being well known that due to bad roads and delayed supplies of raw material a colossal amount of sugar per cent in the cane was lost.

The whole purpose is to husband all resources wherever they are available and co-ordinate all activities effectively so that the targets fixed are realised in a specified period.

Cane Development in Bihar in 1946-47

The Central Sugarcane Research Station at Pusa in Bihar continued to function and was in charge of the Sugarcane Specialist.

The following note gives a summary of the results obtained in regard to sugarcane research carried on in Pusa during 1946-47. We regret that last year we were not able to give similar information as it was received too late.

Cane Agronomy (1) Varietal: The varieties approved for general cultivation during the year continued to be Co. 313, Co. 515, Co. 395 and Co. 508 in North Bihar, and Co. 313, Co. 513, Co. 453 and Co.K. 32 in South Bihar. B.O. 11 which had given in the previous year an average yield of 800 maunds per acre (29.4 tons) was also released for general cultivation in South Bihar. Its place with the registered growers was taken up by B.O. 10, another high tonnage and high sucrose variety which gave an average yield of 734 maunds (27 tons) per acre last year and 685 maunds per acre (25.2 tons) this year, besides 0.7 units higher sucrose in cane compared to Co. 313.

(2) *Manurial*: The war-time schedule (60 lbs. N+75 lbs. P_2O_5) gave once again both higher tonnage and superior juice quality besides benefitting the rotation crops. Further evidence was avaliable to show the deleterious effect on juice quality brought about by deficient phosphatic applications. The optimum doses of N & P were found to be 40 lbs. N and 50 lbs. P respectively, and in one experiment with Co. 313 the combination of 40 lbs. N and 50 lbs. P_2O_5 yielded 430 maunds per acre (15.81 tons).

(3) *Cultural*: The year's results confirmed the past investigations that no advantage accrued from narrow spacing. Improved cultivation, 3 ploughings and subsoiling with Bihar plough and subsoiler followed by cultivation and beaming increased the yield by 56 maunds (2.06 tons) per acre.

Cane Botany and Physiology: Further co-ordinated tests brought out the superiority of both soaking sets and using topped sets for planting. The treatments were particularly helpful in the case of high fibred varieties where percentage germination rate of tiller growth and harvest yields greatly increased.

Cane Chemistry and Soil Work: Genetic classification of the soils in the districts of Bhagalpur, Monghyr, Purnea, and in the Bettiah Raj Farms in Champaran was undertaken this year.

Gur Chemistry: The *gur* quality of twelve important varieties of cane (Co. 313, Co. 383, Co. 395, Co. 453, Co. 508, Co. 513, B.O. 3, B.O. 10, B.O. 11, B.O. 15, B.O. 21 and B.O. 24) was under examination. *Gur* prepared from these canes under identical conditions was evaluated

with respect to quality on the basis of general features as well as detailed quantitative physical and chemical criteria. It was found that, in keeping with previous observations, Co. 313 and Co. 513 were outstanding as good *gur* varieties, while Co. 453 was specially poor. The performance of Co. 508 came up to the standard of the two good *gur* varieties mentioned and it must also be included in this category. The remaining varieties were of average merit from the standpoint of their *gur* quality.

Cane Entomology: The Annual Pest Survey at the maturity of the crop was carried out as in the previous years according to the standard procedure on an extensive scale, covering the reserved areas of 23 factories in North Bihar.

The incidence and intensity of damage caused varied in different areas. The top-borer infestation ranged between 65.71% and 23.35% on the basis of stalk infestation. Sidhwalia in Saran district recorded the maximum and Sasamusa the minimum infestation. Throughout the whole of Champaran district the infestation of top-borer was very high (44%). The stem borer was pronounced in Motihari, the average stalk infestation being 24.57%.

Wilt: This disease was noticed generally all over the province, in association with red rot in Co. 331 in South Bihar and independently in Saran and Champaran. The incidence in susceptible varieties was over 25% in Saran.

Review of the Quality of Sugar manufactured in 1946-47

It is pleasing to note that a steady improvement in the quality of sugar manufactured by sugar factories is observed in this season also. The salient features of improvement in this season are: (1) more increase in the production of ISS. 28 and grain size D, (2) the most common quality of production which was 27E in the past few years, have gone upto 27D this season, and (3) production of too many grades of sugar by a few factories has been witnessed this season also.

It seems desirable that factories producing far too many grades of sugar should endeavour with the help of the Indian sugar standards to produce as few grades as possible.

Crushed sugar accounted for 0.1% of the total production. One factory is reported to have produced as many as 22 different grades of sugar during this season. With production of such a large number of grades, sufficient attention is not paid towards uniformity of production.*

Indian Sugar Syndicate's Activities in 1947-48

During the 1947-48 season, the Indian Sugar Syndicate has discharged very onerous duties on behalf of the industry in the sphere of transport, labour, fixation of sugar prices, pooling of molasses, etc. Immediately after the decontrol of sugar on the 8th December 1947, there was an apprehension of a great rise in the price of sugar, particularly as although the industry was decontrolled, transport continued to be strictly under the control of Government. The Syndicate, however,

*Vide Review of quality of sugar in the *Indian Trade Journal*, dated 18th December 1947.

took immediate action by releasing to the market 35% of the current season's production together with 4,00,000 bags of the previous season's stocks. This amounted to 30,000 tons, which was more than the estimated quantity required for immediate consumption, and was dumped on the market with the deliberate intention of bringing down the prices which had shot up. The result was that prices went down and in some cases even below the level fixed, namely, Rs. 35-7-0 per maund. The quick results redound to the credit of the industry and justify the reputation built up by the Syndicate for its swift action at short notice. Later in the year, when sugar was degraded to 2(b) in its priority, it did not move in the requisite quantity and large stocks were piled up with the factories. This created a very grave situation for a large number of factories which were in financial difficulties, and the Syndicate came to their rescue by representing to the Government the difficulties of the industry, whereupon the Government of U.P. announced on the 11th March 1948, that the amount of statutory cane cess as well as payment of the cane price that fell due on the 15th February 1948, need not be paid at that time. These payments were postponed to the end of June 1948, and later they were further put off till August 1948. Due to this concession obtained by the Indian Sugar Syndicate from the Government, it was possible to produce larger quantities of sugar during the season by the factories in U.P.

Syndicate's Help in Transport of Sugar

All throughout, the Syndicate has also been taking active steps for facilitating movement of sugar in consultation with transport authorities, and although some complaints were seen in the press about the industry not co-operating with the Director of Movement in moving sugar in spite of arrangements being made for movement of three special trains, and supply of wagons in large numbers on two occasions, on the whole movement of sugar was maintained fairly well, and the Syndicate deserves credit for all it has been able to achieve in the sphere of transport of sugar during the season. We hope that Government will act in still closer co-operation with the Syndicate so that sugar may move freely to all destinations at all times, thus relieving the inconvenience of the public and the possibility of prices rising higher than are warranted.

In the sphere of labour also, the Syndicate has acted very efficiently and negotiated at all times with the Government on behalf of the industry, furnishing material to the Government and various conciliation boards for taking action in regard to various amenities proposed. The Syndicate claims that it has done its best to see that labour is treated properly and observes that no other industry has reacted so favourably to labour in its demands as the sugar industry. In fact, it observes that the extra payment made by the sugar industry in U.P. to labour during the season works out to Rs. 1,57,72,000. The average amount paid to labour by the 64 factories in U.P. works out to Rs. 2,46,000 per factory. This is not a small amount, especially for a season of short duration like 1946-47.

The Syndicate also interested itself in regard to the question of cane development and observed that in view of the necessity of reduction in the cost of production of sugar and sugarcane, the work of the two Cane Development Departments should be reviewed and future line of action

chalked out. It also pointed out the necessity of earmarking a larger amount of money for expenditure on cane research and observed that the 18 lakhs scheme put into effect by the U.P. Cane Development Department is not sufficient, and additional amount should be made available for the development of cane in U.P. and Bihar out of the proceeds of the extra money which has accrued to the Government as a result of the levy of Rs. 9-3-0 per maund on the 84,000 tons of sugar lying in stock on 9th December 1947. This amount works out to about Rs. 2,25,00,000 and the Syndicate suggests that this amount should be spent for the benefit of the sugar industry in U.P. and Bihar. There is considerable point in the suggestion of the Syndicate and we trust that the U.P. and Bihar Governments will approach the Government of India for earmarking this entire amount for expenditure in these provinces.

Pooling of U.P. Molasses

In regard to pooling of molasses in U.P., the Syndicate was appointed as the sole distributing licensee. The Sydicate expects that the molasses pooling scheme will bring an income of Rs. 40-45 lakhs to the U.P. Government. We suggest that the Bihar Government should also take advantage of the offer of the Syndicate and allow them to pool the molasses equitably in the interest of the factories.

As observed in our last *Annual*, the Indian Sugar Syndicate has opened a Department of Labour and is in constant touch with the Labour Commissioner of U.P. and Bihar and other appropriate Government authorities.

COMMON SALES ORGANISATION BY THE ENTIRE INDUSTRY ESSENTIAL

With the decontrol of the industry and the announcement of the Government of India that prices of sugar will be regulated by the Government every year in consultation with the Sugar Syndicate, the importance of the Indian Sugar Syndicate will be greater than in the past. The Syndicate today acts as the selling organisation for sugar produced in factories in U.P. and Bihar which have compulsorily to join the Syndicate as members. If the Sugar Syndicate is allowed to act as a central sales organisation for the sugar produced by all factories in India, it can discharge its task with great credit and in a manner which would preserve equitably the interests of *all the sugar factories in the country*. Today the position is that normally factories outside U.P. and Bihar are able to effect sales of their sugar far quicker than factories in U.P. and Bihar, as their sugar has to be consigned to distant places which are deficit areas. The factories located in the deficit areas are able to sell their sugar immediately after production and there is no carry-over for them. This is a position which requires looking into and we feel that all factories in India should be compelled to join a common sugar sales organisation, and this role, the Indian Sugar Syndicate, with its tradition, can fulfil in an excellent manner. This will remove inequities between factories in various provinces.

The report of the Panel on sugar (1946) also recommended that the actual distribution of sugar should be by an organisation, the membership of which should be compulsory for all sugar factories. The Panel also recommended that the policy of Indian States in respect of production, prices and distribution of sugar should be in line with the all-India policy. We entirely endorse this recommendation of the Sugar Panel

and suggest for careful consideration of the Government, the question of compulsory membership of all sugar factories in the Indian Sugar Sales Organisation which should be in charge of the actual distribution of sugar all over the country, like Nivas in Java in the pre-war period.

Cost of Cultivation of Cane—Fresh Data Essential

The data compiled by the Inquiry Committee appointed by the Imperial (now Indian) Council of Agricultural Research in 1934 regarding cost of production per maund of cane in India, has now become completely out of date. The 1937 Tariff Board fixed the cost of cultivation per maund of cane to be Re. 0-3-7 in U.P., Re. 0-3-4 in Bihar, Re. 0-7-0 in Bengal, Re. 0-5-10 in Bombay, Re. 0-5-5 in Madras, etc. Due to the extraordinary rise in the price of various commodities, the cost of cultivation of cane has gone up tremendously during the last six years, and the price of cane was raised from Re. 0-10-0 in 1943-44 to Rs. 2 in 1947-48. We suggest that as soon as the economic conditions become a little more stable and some measure of success is achieved in the matter of stabilising conditions following the anti-inflationary policy pursued by the Government of India with effect from October 1948, an inquiry should be made regarding the cost of production of cane in order to enable the Government and the industry to fix the price of cane on a suitable basis and to consider also the possibility of fixation of price according to quality.

The necessity of such a statistical survey in cost of production was strongly supported by the Hon. Dr. Rajendra Prasad, in the course of his Presidential address to the Indian Society of Agricultural Statistics at New Delhi on the 23rd October 1948.

Gate Cane vs. *Rail-Borne Cane*

Generally cane is transported to factories by carts and lorries from within a radius of 15 miles. The area near the mills is termed the 'gate area'. Factories prefer gate cane to rail-borne cane for numerous reasons, including its regularity of supply, less handling charges, etc. In the absence of suitable roads and communications, however, large quantities of cane have to be brought by rail. The great dependence of the factories on rail-borne cane has led to deterioration in the quality of cane, as it takes a long time for the cane to arrive by rail, and the sucrose contents are greatly reduced.

It would be of interest to note that in Bihar 70% of the total cane crushed in 1946-47 was gate cane, as compared with 75% in 1945-46, and in U.P. 70% was gate cane in 1946-47, as compared with 78% in 1945-46. In Bombay 100% of the cane is gate cane. In Madras it was 66% in 1946-47, and 71% in 1945-46. A table in the previous portion of the *Annual* entitled "Sugar Industry at a Glance" gives details in regard to this matter for the various seasons. On an average, for the whole of India, about 75% of the cane crushed in 1945-46 was gate cane, and 69% in 1946-47. (*Vide* Table 21 on page ix.)

We feel that it is essential to give suitable encouragement for ensuring larger supplies of cane from areas in close proximity of the factories, and where it is not possible, full facilities should be given for obtaining cane supplies by rail without loss of time. It would be of help if *pucca* roads are also built round about factories. Government

can do a lot in this matter by spending some money realised from the cane cess for development of roads, which would be of use to the general population also.

Problem of Marketing of Sugar

With the lifting of central control as from December 1947, the sale of sugar for U.P. and Bihar, which represents about 75% of the total production of sugar in the country, is arranged by the Indian Sugar Syndicate, which acts as the mouthpiece of the industry in U.P. and Bihar. The carry-over at the end of a season is usually about 1,00,000 tons. In 1948-49 the carry-over will be about 2,00,000 tons due to the larger production of sugar accompanied by a swift rise in price to Rs. 35-7-0 per maund. A table in the previous portion at the beginning of the *Annual* shows the carry-over from year to year during the past few years. We feel that normally there ought to be a carry-over ranging from 2 to 3 lakhs tons, in order to provide for a bad crop in any season (*vide* Table No. 20 on page ix).

Consumption of Sugar in Provinces

The U.P. and Bihar which produce 75% of the sugar in the country, only consume 20% of the normal sugar production every year, and the balance has to be transported to other provinces and areas. Bombay, Punjab and Madras, between them, produce about 12% of the total consumption of sugar and have to import large quantities from U.P. and Bihar for their needs. The *per capita* consumption of sugar varies widely in provinces. It also varies greatly between urban and rural areas. Bombay is the province where the *per capita* consumption of sugar is the highest. The varying consumption of sugar in different provinces is due to a variety of factors. The report on marketing of sugar contains very interesting information regarding consumption of sugar and *gur* by various provinces and classes of people, and for various purposes. We have also given a relevant table in the " Sugar Industry at a Glance ", to which we invite a reference. Another table has also been given showing the consumption of sugar in the various parts of the country for 2 years. A perusal of Tables Nos. 32 and 36 would be very instructive.

Sugar Advisory Council, 1948

There was a Sugar Advisory Committee appointed by the Government of India, which usually met twice a year. The last meeting of this Committee was held in May 1947, at Delhi. As a result of the discussion at the 1947 meeting of this Committee, Government decided to import 30,000 tons of refined sugar at controlled price from Cuba in accordance with the allotment of the International Emergency Food Council. India was also allowed to import further 70,000 tons from the uncontrolled markets of the world, but this could only be done at high prices, and India's foreign exchange position would not permit such imports. A new Advisory Council will be formulated by the Government of India, and the Hon'ble Shri Jairamdas Daulatram made a reference to this in his speech at the tenth meeting of the Indian Central Sugarcane Committee held on 9th October 1948 at New Delhi. He stated that it was also Government's intention to constitute immediately a Sugar Advisory Council on the lines of a similar body which existed

when sugar was statutorily controlled. This Council will consist of representatives of the industry, growers and consumers. We expect that the meeting of the Committee will be convened sometime in November 1948 when the question regarding fixation of sugar prices and sugarcane, marketing of sugar by a central sales organisation, prices of 1947-48 stocks of sugar, etc. will be brought up for discussion.

Labour Inquiry Committees, 1938-39, 1946 and 1948

In 1938, the Bihar Government appointed a Labour Inquiry Committee for investigating the problems of labour in Bihar and making recommendations for improvement in conditions of wages, employment, work, etc. Dr. Rajendra Prasad was the Chairman, and Mr. M. P. Gandhi, *Editor* of this *Annual*, was one of the members. The Committee submitted its report in 1939, but little progress was made in implementing its recommendations until 1945, when the Bihar Government made proposals for ensuring a minimum wage of Rs. 20 per month in sugar factories, which was accepted by factories in 1946.

In 1947, the minimum wage was increased to Rs. 36 in accordance with the recommendations of the *Bhatia Committee* and some other amenities were also given. Even this report has now become out of date. In 1948, the minimum wage was increased to Rs. 45 in accordance with the recommendations of the *Nimbkar Committee.*

We have already referred to the conditions of labour in the previous portion of this *Annual* in great detail. We only wish to add at this stage that in our opinion the time has come when, in the interest of acceleration of production of sugar, there ought to be an industrial truce, at least for a couple of years and labour should press its claim for larger amenities or higher wages in a manner which will avoid strikes, and should make the fullest use of the machinery provided for settlement of disputes by conciliation, arbitration or adjudication. Increased production is the greatest essential at the present time, when there is a great dearth of consumer goods, and we hope that labour will play its part truly and well at this critical juncture by maintaining peaceful relations in the industry.

Future of the Industry hinges on Improvement in Cane Yields
Former Tariff Boards' Sugar Panel's Views

It would be of interest to recollect here that the first Tariff Board, 1930, laid very great emphasis on the need for development and research, and pointed out that without it the whole purpose of the scheme of protection was likely to be delayed if not defeated. Indeed they regarded research as *almost a condition precedent to protection.*

The 1937 Tariff Board also emphasized the urgency of research work and stated "we are convinced that the only hope of the industry *being able to compete on equal terms with other countries is a reduction in the cost of raw material.* We would strongly recommend that the allotment from the excise fund should be raised from 1 anna to 3 annas per cwt.".

The Sugar Panel also recommended that research, both agricultural and technological, should be intensified. They also recommended that the present Central Government grant of one anna per cwt. of excise duty should be increased to 4 annas per cwt. While pointing out the

necessity of continuance of tariff protection during the next 5 years, they stated that the quantum of protection would depend on comparative cost of production in the country and Java, when normal conditions return. They also urged that as the cost of sugarcane was the most important item in the cost of sugar, steps should be taken to produce more cane per acre and achieve higher recovery of sugar from cane.

The Tariff Board of 1947 (on which the *Editor* of this *Annual*, Mr. M. P. Gandhi, had the honour of being associated as Technical Adviser) also stated that in view of the great leeway to be made up before India can achieve efficiency in comparison with Java and other countries, they endorsed the recommendations of the Sugar Panel, that *the Central Government grant to the Indian Central Sugarcane Committee should be maintained at 4 annas per cwt.* On this basis, it was estimated that a grant of about Rs. 50,00,000 would be available every year. The Tariff Board also came to the conclusion of recommending continuance of protection for a period of two years, and stated that this conclusion was reinforced by the further fact that *protection of the sugar industry was in effect protection to the sugarcane cultivation in India which was an integral part of India's agricultural economy.* The Tariff Board also expressed the opinion that "since the Indian sugar industry was likely to require protection *for some time to come, a detailed inquiry into the question of protection necessary should be undertaken when conditions both in India and abroad became more normal.*" When they reported (March 1947), the Tariff Board expected that such normality would be restored before the end of 1948. They therefore drew the attention of the Government to the desirability of extending protection for a period of two years ending 31st March 1949, and instituting a tariff inquiry during the latter half of 1948.

It was a matter of great satisfaction to us that the Tariff Board of 1947, endorsed the recommendations made in our previous *Annuals* for 1945-46 and 1946-47, both in respect of continuance of protection for a period of 3 years and recommendation for increased grant for expenditure on research work. It was also a matter of gratification to us to find that the Government of India accepted the recommendations of the Tariff Board in respect of protection and also agreed to increase the grant to the Indian Central Sugarcane Committee from one anna per cwt. to 4 annas per cwt. Accordingly the increased grant was also sanctioned for the year 1947-48, and preparations were afoot in 1948 for launching on short-term and long-term schemes of comprehensive research work calculated to achieve the object of reduction in the price of sugarcane which approximates to between 60% and 70% of the price of sugar at the present time.

It is a matter of deep disappointment, however, to find in the speeches of Sir Datar Singh, President, Indian Central Sugarcane Committee and of the Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, at the tenth meeting of the Indian Central Sugarcane Committee, on the 9th October 1948, a reference that the Government of India had decided to cut down the grant to the Indian Central Sugarcane Committee to the former rate of 1 anna per cwt. (*vide* speeches in the earlier portion of the *Annual*, "At a Glance", pp. xl, and xlvii).

We are convinced that if this decision of the Government is not reversed immediately, it will spell disaster to the Indian sugar industry

and will *necessitate continuance of protection for an abnormally long period, if not for ever.* In this connection we wish to point out the fact that the present position and superiority of the industry in Java, Hawaii, Cuba, etc. have been due to the enormous amount spent for purpose of research with a view to improving efficiency of cultivation of cane and manufacture of sugar.

Comparative Expenditure on Research in Various Countries

It would be instructive *to note that Hawaii spends on research Rs. 12 per acre, Java Rs. 3 per acre, Japan Rs. 3 per acre, while in India we spend one-third of a rupee per acre.* At the rate of 4 annas per cwt. on the excise duty on sugar the rate of expenditure would work out to Re. 1-8-0 per acre. If the wings of the industry are thus clipped by curtailing expenditure on research which is very vital for the purpose of improving the yield of cane and consequently reduction in the cost of cultivation, we are afraid that the cultivation of cane will be very hard hit and the industry which has been built up at considerable sacrifice on the part of the consumers for the last 16 years will suffer. We are convinced that the future of the industry depends upon the success achieved in reducing the cost of cultivation of cane by increasing the yield per acre from 15 tons to nearly 40-50 tons per acre. This alone will help the industry to withstand competition in due time from Java, Cuba, Hawaii, Formosa, and Philippines, which are advantageously situated due to climatic, geographical and other conditions for production of cheap cane and sugar.

Table 23 in the "Sugar Industry at a Glance" shows the comparative yield of cane and sugar per acre in other countries, and will indicate the leeway which we have yet to make in this important respect. We would also draw the attention of the Government of India in regard to the negligible expenditure on agriculture generally. The Hon'ble Shri Jairamdas Daulatram, Minister for Food and Agriculture, pointed out in the Dominion Parliament on 16th March 1948, that India spends *one anna per head of population on agriculture, while U.S.A. spends Rs. 80 and U.K. Rs. 2. While U.S.A. spends 3.3% of the central budget on agriculture, Canada 1.6%, U.K. 0.8% and India 0.75%.* This position must be immediately remedied and nothing should be allowed to stand in the way of undertaking comprehensive schemes of research work as has been recommended time and again by the various Tariff Boards on sugar.

We are afraid that this reduction of the grant for research to 25% of the amount sanctioned only in the previous year (1947-48) is a part of the anti-inflationary measures undertaken by the Government of India. If so, this is very ill-timed and an unfortunate measure and will affect vitally the interest of the Indian sugar industry including the agriculture.

Appeal to Finance Member to restore Research Grant

We earnestly appeal with all the emphasis at our command to the Hon'ble Dr. John Matthai, Finance Minister, Government of India, who was himself a member of the first Tariff Board on Sugar (1930), which emphasized greatly the need of research to restore the grant to Re. 0-4-0 per cwt. as is strongly urged by Sir Datar Singh, Vice-Chairman, Indian Central Sugarcane Committee, on the 9th October 1948 (*vide* page xl).

Principal Applicant for Protection is the Agriculturist

In this connection we would also point out that unlike other industries, the main applicant for protection in the sugar industry today is not the sugar industrialist who is today reduced to the position of a converter of the manufactured product from the raw material supplied to him at fixed prices by giving him the conversion charges. The real applicant for protection is the Ministry of Agriculture of the Government of India and of the Governments of U.P. and Bihar which are the principal sugar producing provinces of the country and which are vitally interested in the maintenance of the cultivation of cane in order not to injure the agricultural economy of these provinces and the country as a whole.

Like the agriculturist, labour is also vitally interested in the maintenance of protection of the sugar industry inasmuch as it is the sugar industry alone in U.P. and Bihar which had afforded to him a very fair wage and reasonable amenities, due principally to the fact that the industry was controlled and the Government were in a position to influence the industry to give such amenities regardless of the increased cost.

Research Grant must be restored at once

We therefore wish that this matter should be clearly understood by the Government and out of regard for the interests of the agriculturist and labour, apart from the interests of a large number of investors and capitalists who have promoted this industry, they should immediately restore the grant for research in sugarcane to which they agreed only last year on the recommendation of the 1947 Tariff Board. We also trust that the various Provincial Ministries, industry and labour will draw the attention of the Government to this matter immediately in order that the grant may be restored for carrying on research work on a comprehensive scale in order to achieve the object of reducing the cost of cultivation of cane.

WORLD PRODUCTION OF SUGAR

It has been extremely difficult for us to get any reliable data regarding world production of sugar—both cane and beet—and the world consumption of sugar during the last two years, and the prospects of production and consumption during the next 2-3 years. Reports of various authoritative sources, namely, F. O. Licht, E. D. & F. Man, and Lamborn from the U.S.A. vary very much from time to time and in their individual estimates, and due to this it is difficult to form a correct idea of the acreage under cane and production and consumption of sugar. The same is true also in regard to prices of sugar. From the latest reports that have been available to us, however, we are presenting the following picture of the world's estimated production and consumption of sugar during the last year or two, and the prospects during the next 2 or 3 years.

Coming first to the 1948-49 European sugar production, the present reports indicate improved production prospects in Germany as a result of favourable weather conditions. The production of Czechoslovakia is likely to be 5,40,000 metric tons, an improvement over the last year. Improvement is also reported in the case of Switzerland, Ireland, and Great Britain. Regarding Russia, however, estimates of beet sugar

production have been fluctuating greatly. What is more, since the World War II broke out, the secret of the Russian sugar production has never been revealed. Owing to lack of authentic information, estimates of world sugar statisticians have always shown considerable differences and changes. To give the reader an idea of the estimates of various authorities, we give below the following table :

*Table showing Estimates of Production of Sugar in Russia in Metric Tons (Raw Value), recently published.**

	1947–48	1946–47	1945–46	1944–45
U.S. Department of Agriculture	18,59,748	7,03,075	10,88,632	11,52,136
C. Czarnikow ...	25,00,000	15,00,000	12,00,000	9,00,000
Willett & Gray ...	35,56,000	26,41,600	15,24,000	8,63,600
F. O. Licht ...	21,00,000	7,50,000	11,00,000	4,55,014

According to the information available to F. O. Licht at present, the production of 1947-48 was nearer 21,00,000 metric tons, and it was impossible to find out whether the figure referred to represented raw sugar value or refined. In former years Russian figures were available in refined (sand sugar). If it was 21,00,000 metric tons refined sugar, 2,33,333 tons would have to be added to it to express it in raw value. From another press agency report it is learned that Russian factories produced 81,000 metric tons more than provided for in the 1947 plan.

The sugar crop results and expectations for 1946-47 and 1947-48 and estimates for 1948-49, as compared with the year 1939-40 are given in a table prepared by E. D. & F. Man, dated 27th August 1948, published in the *Australian Sugar Journal*, dated 15th September 1948 :

World's Sugar Crop Results and Expectations.
(Long Tons of 2,240 English Pounds)

	1939–40	1946–47	1947–48	1948–49 (Estimate)
Europe—				
Russia ...	24,00,000	24,00,000	30,00,000	35,00,000
Germany ...	25,80,000	9,90,000	7,68,000	9,00,000
Poland ...	4,22,000	4,00,000	5,15,000	6,30,000
Czechoslovakia	5,23,000	5,80,000	3,70,000	6,50,000
Hungary ...	1,30,000	70,000	1,45,000	1,98,000
France ...	10,33,000	6,90,000	5,88,000	8,00,000
Belgium ...	2,65,000	2,32,000	1,35,000	2,40,000
Holland ...	2,40,000	2,47,000	2,06,000	2,50,000
Sweden ...	3,11,000	2,90,000	2,41,000	2,60,000
Denmark ...	2,40,000	2,15,000	2,05,000	2,20,000
Italy ...	4,72,000	2,40,000	2,06,000	3,00,000
Spain ...	98,000	1,60,000	1,95,000	2,10,000
Switzerland ...	12,000	25,000	21,000	25,000
Great Britain ...	5,04,000	5,56,000	4,40,000	5,60,000
Eire ...	58,000	61,000	66,000	75,000
Jugoslavia ...	1,19,000	40,000	45,000	50,000
Other European Countries ...	3,24,000	2,30,000	2,60,000	3,10,000
	97,31,000	74,26,000	74,06,000	91,78,000

* Table taken from the report of F. O. Licht, dated August 15, 1948.

America—				
U.S.—Beet ...	14,72,000	13,05,000	16,85,000	14,00,000
Cane ...	4,64,000	3,78,000	3,36,000	4,00,000
Porto Rico ...	9,09,000	9,66,000	9,10,000	10,00,000
Hawaii ...	8,49,000	7,80,000	8,50,000	8,50,000
Cuba ...	28,16,000	57,50,000	59,50,000	59,50,000*
	65,10,000	91,79,000	97,31,000	96,00,000
Other Cane Countries—				
Domingo ...	4,50,000	4,56,000	4,50,000	4,25,000
Haiti ...	40,000	44,000	41,000	45,000
West Indies ...	3,15,000	4,32,000	4,36,000	4,50,000
Demerara ...	1,70,000	1,79,000	1,70,000	1,80,000
Mauritius ...	2,30,000	2,90,000	3,70,000	4,00,000
Fiji ...	1,15,000	1,20,000	1,30,000	1,50,000
Australia ...	9,33,000	5,50,000	8,00,000	8,50,000
South Africa ...	5,30,000	4,24,000	4,55,000	5,20,000
Java ...	15,80,000	50,000	70,000	1,00,000
Philippines ...	9,61,000	72,000	3,50,000	5,90,000
French Colonies	1,84,000	1,28,000	1,50,000	1,65,000
Mexico ...	2,92,000	5,00,000	6,00,000	6,50,000
Peru ...	4,66,000	4,12,000	4,15,000	4,50,000
Argentine ...	5,21,000	6,30,000	6,00,000	5,90,000
Barzil ...	11,78,000	13,10,000	13,00,000	12,80,000
Other American Countries ...	2,77,000	2,60,000	2,60,000	2,50,000
Japan and Formosa ...	13,21,000	60,000	2,50,000	3,00,000
India and Pakistan (including *Gur*) ...	46,05,000	48,50,000	50,00,000	50,00,000
	1,41,68,000	1,07,67,000	1,18,47,000	1,23,95,000
World Total ...	3,04,09,000	2,73,72,000	2,89,84,000	3,11,73,000

Sugar Prospects and Development of World Sugar Production

According to F. O. Licht, the world sugar production for 1947-48 totals to 27.6 million metric tons, as compared with 26.4 million tons in 1946-47, 21.4 million metric tons in 1945-46, and 28.6 million metric tons in 1938-39. (*Vide* F. O. Licht's Sugar Report dated 31st March 1948.)

* Crop may be artificially restricted by Government decree.

E. D. & F. MAN.
27th August 1948

Visible Consumption of Sugar

Upto World War II, regular monthly consumption figures of sugar were available for all important countries of the world, which made possible reliable surveys about the trend of consumption. Today such reports are missing from numerous countries. Normal requirements do not limit the size of consumption, but the ability to buy the necessary quantities is the limiting factor. Sugar distribution is now carried out by rationing in many countries because of this. In Europe these rations are generally below the pre-war *per capita* consumption, as scarcity of dollars force numerous countries to limit sugar purchases abroad. A close observation of the sugar consumption trends, however, is of greatest importance to the sugar world. Today sugar consumption is the master and king of the world's sugar economy. It determines the possibilities of production and distribution. While consumption has generally gone down in a few small countries like Czechoslovakia, the effect of consumption increasing in other countries, especially the U.S.A. and U.K. has resulted in a nett increase of consumption. The decrease in Czechoslovakia can be explained by the fact that sugar rations have been lower in order to maintain the export of 1,00,000 metric tons (raw value) during 1947-48. Increase of consumption has been varying from country to country. The largest increase recorded, however, is in respect of the U.S.A. According to the figures of the International Sugar Council, the increase of consumption of the U.S.A. was over 26% during September to January 1947-48. The suspension of the rationing system in the U.S.A. demonstrates the wide difference in consumption in rationed and in free markets.

In Europe, one can state that the sugar consumption in Germany will show a large increase because of the big imports of Cuban sugar. In Austria, Hungary, Denmark, etc. the consumption will probably still show an upward trend. In other countries scarcity of dollars and the poor crops last year will limit consumption. Summing up, one can expect, however, that the European consumption in 1947-48 will be considerably higher than in 1946-47.

In Asia, there can be no doubt that Japan and Korea will consume more sugar in 1947-48 than in 1946-47. Also in Java and the Philippines sugar consumption should tend to rise as supplies increase. The total world sugar consumption is limited by world sugar production and available stocks. On 1st September 1947, there was no large world sugar carry-over. According to F. O. Licht's latest estimate, the world's sugar production amounted to 27.9 million metric tons (raw value) in 1947-48, as against 26.2 million metric tons (raw value) in 1946-47. Thus the 1947-48 world sugar consumption will vary within the limits of production. F. O. Licht believes that the figures of consumption in 1947-48 will be less than the figures of production, because Cuba will have larger stocks on 1st September 1948, than on the same date of last year.

From 1948-49, F. O. Licht expects greatly increased consumption especially in Europe where much larger local production and E.C.A. financing of countries will provide larger supplies. In a world in which sugar is rationed in many countries, it is natural to expect consumption to expand on withdrawal of rationing.

International Sugar Agreement Essential at Present

On May 6th, 1937, an agreement was signed by the following countries: Union of South Africa, Australia, Brazil, Great Britain, China, Cuba, Czechoslovakia, San Domingo, France, Germany, Haiti, Hungary, *India*, Holland, Peru, Poland, Portugal, Soviet Union, United States of America (including the present Philippine Republic) and Yugoslavia. The principal point of the agreement was the fixation of export quotas which limited sales in the free world market and which could be varied within certain bounds. *India was not allowed to export by sea.* India withdrew from the agreement in 1942 and is free, since then, to export sugar.

The position of production and consumption since then has greatly changed, e.g. while an export quota of 10,50,000 tons was provided for in the agreement for Java, it is not likely to be fulfilled in the next few years, as the Java industry is still crippled, but she has still a strong desire to export sugar and may, therefore, ask for substantial export quotas. In Peru, while the sugar production has varied only slightly in recent years, local consumption has been rising steadily. Peru will doubtless wish to retain its export quota of 3,30,000 tons provided for in the agreement. Czechoslovakia also will want an export quota of at least 2,50,000 tons.

It is likely that Russia, where sugar production has sharply increased, will ask for higher export quota than 2,30,000 tons.

India has withdrawn from the agreement in 1942. The Indian sugar industry has significantly enlarged and production plans provide expressly for production of larger quantities of sugar for export purposes. It will therefore appear in the market of East Asia and will insist that larger quantities of sugar should be allowed to be exported by her. Some probably will go to Pakistan. It should be remembered that in 1937 Java attached great importance to the exclusion of India as exporter. At any rate, it seems to be urgently necessary to include India also in the new International Agreement, says F. O. Licht. As far as is known, the International Agreement has not been signed by China. The rebuilding of the Taiwan sugar industry in China is in full swing. It seems desirable that Cuba should also participate in the International Agreement.

In the U.S.A. the pre-war situation has been slightly modified by the new Sugar Act. This also includes the import quota of the Philippines.

In reviewing the above analysis, several factors become apparent. First, because of changed conditions some countries want or need substantially enlarged export markets. Second, most of the other signatories of the agreement do not wish any reduction in established quotas. This is symptomatic of the actively increased competition for world markets, a competition so keen that in time it will lead to an international problem such as existed in the late 1920's and early 1930's.

In view of the trend of world production, observes F. O. Licht, it seems desirable in the near future to resume international negotiations and reach an agreement that will prevent a crisis.

World Consumption increasing to '38 million tons

The observations of E. D. & F. Man, Sugar Brokers and Statisticians, London, in their latest review dated 27th August 1948 are very

interesting and deserve a y careful study. We quote below extracts from their report. (*Vide* Australian Sugar Journal, dated September 15th, 1948.)

"The whole sugar-producing world is now well on the road to recovery and the only two centres which are lagging behind are both situated in the East, viz. Java and the Japanese Empire. If only these two producers could settle their troubles and join in the forward march there would be no need to worry about future sugar supplies. However, the world production for the moment is very lop-sided in different parts of the world and it does seem that the time is inopportune for the International Sugar Council even to discuss the reinstatement of export quotas.

"It is difficult to assess world requirements, but history has taught us that over the past 100 years the consumption increases annually by 3½ per cent and even if one took a 2½ per cent accumulated increase since 1939, it could be calculated that under normal conditions the world might consume 38,000,000 tons.

Paradoxes to upset Supply and Demand—Artificial Curtailment of Crop in Cuba in 1949?

"Whilst according to known facts and official estimates, the world sugar production is slowly but surely creeping up to pre-war standard and may surpass it in 1949-50, there are factors which upset normal law of supply and demand. Firstly, it is not easy to forecast exactly how much the world could absorb after nine years of restriction. Secondly, a peculiar economic situation has arisen, whereby one country cannot transfer its surplus production to some other importing country, owing to currency difficulties. Thirdly, there is no clear statement which informs the world how the E.R.P. works and to what extent sugar shipments fit into the world picture. Fourthly, it is rather paradoxical that when the world is crying out for increased production, Cuba talks of artificially curtailing the 1949 crops.

Difficulty in Assessing Price of Sugar in Future

"In view of these factors, how can one assess the value of sugar for the next year or so? Normally increased production should mean lower prices and *vice versa*, consequently over the next decade one should certainly visualise a decline in the price structure, but for the immediate future conditions seem fairly stabilised and the level of prices for the remainder of 1948 is unlikely to be very much lower than that of today."

Australian Industry and Sugar Prices on the Up Grade

As it will be of considerable interest, we give below extracts from the Annual Report of the Agent-General in Australia, Mr. L. H. Pike, for the year 1947, which was tabled in the Australian Parliament on August 17th, 1948:—

"At the moment of writing this Report, it is anticipated that, due to adverse weather conditions, shortage of man-power, and other post-war factors, the exportable surplus of the 1947-48 Queensland crop will not exceed some 80,000 long tons. The shipments to the United Kingdom market, however, have been greater than at any time since the early years of the war, viz. some 36,000 tons upto date. The second

largest purchaser has been New Zealand, and the balance of our export sugar, some 18,000 tons, has been shipped to the several destinations decided upon by the United Kingdom Ministry of Food, viz. Malaya, the Persian Gulf, and Ceylon."

"It is interesting to note the consistent and steady rise in prices of sugar under our Ministry of Food contract during the period 1939 to 1948 inclusive. The following table shows the annual increases:

(Basis 96 per cent Pol.)

		Per cwt. c.i.f. U.K. s.	d.
1939	..	11	3
1940	..	12	7½
1941	..	12	7½
1942	..	13	9
1943	..	14	3
1944	..	15	3
1945	..	17	3
1946	..	19	6
1947	..	24	3
1948	..	27	3

The basic freight rate is still 35*s*. 6*d*. per ton, anything over and above this amount being absorbed by the United Kingdom Ministry of Food."

"The total quantity of Empire sugar placed at the disposal of the Ministry of Food during 1947 was about 1,100,000 long tons. Of this some 400,000 tons, mainly from the British West Indies, were shipped to the United Kingdom; the remainder was utilised for distribution in New Zealand, Canada, the Far East, Middle East and other areas, which countries the United Kingdom was responsible for supplying under the International Emergency Food Council arrangements."

Imports in the U.K.

"The average annual imports of Empire raw sugar into the United Kingdom in the four pre-war years 1936-39 amounted to 1,250,000 tons. Including home-grown beet, the Empire supplied in that period nearly 75 per cent of the United Kingdom total requirements; the comparable figure for 1947 was about 50 per cent of the ration requirements, thus showing that the two Dominions (Australia and South Africa), together with the colonies, are now given the opportunity of taking advantage of the short supply situation by expanding present production and overtaking the leeway occasioned by war-time conditions."

Russia withdraws from International Sugar Agreement in 1947

"The International Sugar Agreement was extended by Protocol on the 29th August 1947, for a further period of one year after the 31st August 1947. Unfortunately, the Government of the Union of the Soviet Socialist Republics has withdrawn its membership of the Council, which had continued since the signing of the original Agreement on the 6th May 1937."

Empire Sugar Production encouraged, due to Dollar Scarcity

" The world sugar position has recently undergone a marked change, as has been pointed out by Messrs. Czarnikow in one of their recent authoritative Monthly Bulletins. This is due to the purchase by the United States Government of 1,000,000 short tons of the current Cuban crop at the sterling equivalent of 22*s.* 4*d.* per cwt. f.o.b. to meet the needs of occupied areas and for relief measures. In this connection Cuba is reported to have segregated 1,250,000 long tons of the present crop to provide for this sale, the excess (about 360,000 tons) is to be placed in the hands of the Cuban Sugar Institute and sold later at fixed minimum prices. These transactions have helped to give a more stable and a healthier tone to the open market, particularly in view of the fact that the bulk of the free market supplies are located in the " dollar " area. On the other hand, this new situation, of course, does nothing to alleviate the present serious lack of balance due to the position of those under-supplied consuming countries which are without the hard currency required to purchase " dollar " sugar. It is inevitable, therefore, that for some time ahead the United Kingdom must regard anxiously the supply position of Empire countries and extend whatever encouragement is practicable to a policy of increased production for export within the Dominions and Colonies, with a view to avoiding the necessity of drawing upon hard currency supplies for the United Kingdom market."

" As at present advised, I am still of my former opinion that the only really dangerous implications contained in the Charter are those relating to the quantitative import restrictions which it seeks to abolish or curtail ; this danger, however, as affecting our own embargo against sugar imports, and also in some lesser degree our policy of stabilising the domestic price of sugar, is mitigated by certain safeguarding provisions and limitations included in the Charter. For the time being, however, the system of Empire preferential sugar duties in the United Kingdom and Canadian markets has been maintained both in the Tariff Agreement concluded at Geneva and in the Draft Charter."

Reliable Report re : Java's Potentialities of Production

Having given above information regarding the position of production and consumption of sugar in the world, and the prospects during the next one or two years, we give below at great length an extract from a recent Sugar Report of F. O. Licht,* which has reviewed the Java sugar industry, its prospects of recovery and its position among the leading sugar producing countries of the world. India is vitally interested in the position of the industry in Java and therefore this information will be of great value for us :—

" The Dutch East Indies' sugar industry was one of the large export industries of the world sugar economy until the occupation of Java by the Japanese troops in 1942. The sugar importing countries of the Far East, the Middle East, and the African continent obtained their sugar supplies from Java, and Javan sugar was also imported by numerous European States. *The wonderful cane varieties, the good equipment of the factories, and the eminent sales organisation together with its favourable geographical situation, gave the sugar industry of Java unassailable superiority over other competitors.*

* Taken from the *Australian Sugar Journal*, dated 16th August 1948.

"This unparalleled position has been thoroughly destroyed by the war. The Japanese created chaos, upsetting the economic life of the country. When they came, there were normal stocks of sugar there, while a new crop of normal size was in the ground. Stocks were partly pilfered by natives, and partly taken over by the Japanese army and navy. No doubt some shipments took place during the earlier period, but nothing is known about quantities shipped or destinations. As the years went on, the crops turned out under Japanese management were greatly reduced. Many mills were dismantled or used for other purposes, so that by the end of the occupation period, the production capacity of Java had dwindled to very small proportions. During the political trouble that broke out after the defeat of the Japanese, a scorched earth policy carried out by the Republic of Djocja resulted in the destruction of a further number of sugar mills. Production under republican management remained very small, partly due to disturbances and civil commotion and partly through lack of fertilisers and labour.

"Due to internal troubles and the fact that some areas are still in Republican hands, no reliable figures can be given about the number of mills in Java in working conditions or in a state which will permit rehabilitation within a reasonable time and at a reasonable outlay of capital.

"The Japanese have given the following production figures: Crop 1942, 1,311,000 tons (of 2,205 lb.); 1943, 683,000 tons; 1944, 497,000 tons; and 1945, 84,000 tons. Republican quarters estimated a yield of 20,000 tons in 1946 and 50,000 tons in 1947.

"Meanwhile three mills in East Java turned out about 8,000 tons of browns in 1947. What production was made in Republican territory in 1947 is not known, nor what stocks are held in the Republic. Old stocks in the liberated areas amount to about 2,50,000 tons, of which the bulk is browns. As the sugar has been produced as far back as in 1942, the quality is in many cases not upto the standard, being damp or wet. These stocks are spread over numerous places in the interior; sorting and classifying takes a long time, and movement is very difficult because of an extreme shortage of transport, while space at ports is also very limited.

The new browns are sold at usual NIVAS conditions, and some sales have been made for Eastern destinations. Old sugars were at first sold on sample, but lately on description, the NIVAS taking upon themselves responsibility of eventual claims. The superior sugar is being sorted and some parcels—although several years old show almost normal quality. Old browns are sold *tel quel* as far as quality and polarisation are concerned. A parcel of 10,000 tons has been sold to Holland and negotiations are proceeding with the British Ministry of Food. The total quantity of sugar earmarked for export is 70,000-75,000 tons. The balance will be needed for local requirements, but is in any case probably not fit for export, being damp or wet.

"Estimates are that the three liberated mills, which are in working condition, will turn out about 10,000 tons in 1948. No programme has been made up for the 1949 campaign, as this depends on the expenditure which will be required for repairing installations, etc. and also on the amount of seed cane that will be available, but the preliminary estimate is about 60,000 tons. In any case it does not look as though

a crop allowing exports on a larger scale will be turned out before 1950. Crushing results by the mills working in 1947 have been very poor, the outturn of sugar per acre harvested being in many cases less than one-third of the corresponding figure for 1940.

"There are three groups of sugar mills in the liberated area, viz. *Sidoardjo delta* where, pre-war, 17 mills produced 2,50,000 tons. In 1940, only nine of these mills were working, and their production was 1,35,000 tons. If rehabilitation takes a normal course, a production of 10,000 tons is expected in 1948 and 60,000 tons in 1949. *East Java*, where, pre-war, 20 mills produced 3,53,843 tons. In 1940, only fourteen of these mills were working, and their production was 2,47,692 tons. With normal developments about 2,30,000 tons can be expected in 1950. *North Coast*, where, pre-war, 24 mills produced 4,22,925 tons. In 1940, only twenty of these mills were working, and their production was 3,75,235 tons. Owing to onerous destruction in this area no estimate is given for 1950.

"According to press reports, the Republic gives the following estimates about "foreign" owned mills within their territory :

Planting crop 1948 : 40,000 acres, estimated production 80,000 tons sugar.

Planting crop 1949 : 80,000 acres, estimated production 1,60,000 tons sugar.

Planting crop 1950 : 89,000 acres, estimated production 1,80,000 tons sugar.

"It is expected that 17 mills will crush in 1948, 26 in 1949, and 30 in 1950, but these figures may prove to be unreliable. The above estimates are interesting inasmuch as the *Republic calculates a production of about two tons sugar per acre*. Previous planting programmes of the Republic have never been accomplished and it is doubtful whether the increased plantings will materialise.

"*A real disaster for the Javanese and moreover the world sugar industry was the destruction of the Experimental Station of Pasoeroean to which the sugar world owes fine cane varieties. All the available material of research has been destroyed by the extremists.*

"This and the wanton destruction by the Republic of mills, installations, houses and offices, and the lack of labour owing to continual intimidation and kidnapping by Republican "troops" has caused a set-back of the Java Sugar Industry which *will take many years to overcome*. The higher wages ruling, social reforms, etc. and the high cost of materials necessary for rehabilitation do not open *so very bright prospects for Java sugar.*"

British Empire Production in 1947-48 and 1948-49

A word regarding the sugar situation in the British Empire in 1947-48 and 1948-49 will not be out of place here.*

Great Britain and the British Empire are among the great areas of world sugar production and consumption. Supply and demand conditions in the Empire are very important for numerous sugar export countries and influence the whole situation of the free market in a decisive manner.

* *Vide* Report of F. O. Licht, dated August 31st, 1948.

The 1947-48 beet sugar production of the British Empire amounted to 558,353 metric tons, raw value against 400,035 tons in 1938-39. In 1948-49 we expect a production of 722,000 metric tons, raw value (Table I). *The 1947-48 cane sugar production* of the British Empire reached 3,500,164 metric tons, raw value, against 3,345,246 tons in 1938-39. In 1948-49 we estimate the cane sugar production at 3,968,000 metric tons, raw value. From this results a total production of 4,690,000 metric tons, raw value in 1948-49 against 4,058,517 tons in 1947-48 and 3,745,281 tons in 1938-39.

Thus in 1948-49 a considerable increase of production can be expected. This increase will decrease the sales possibilities of foreign sugar in the import areas of the British Empire. That especially refers to the increase of the beet sugar production in Great Britain and Canada as well as to the increase of the cane sugar production in the British West Indies and Australia. In contrast to this, the increase of the cane sugar production in the Union of South Africa and India is of minor importance for the free market because the increase will probably be absorbed by home consumption.

According to our calculations there will be available from British Empire sources 2,132,000 metric tons, raw value in 1948-49 as compared with 1,771,353 tons last year for covering the requirements of the import districts of the British Empire (Table 2). From the total quantity Great Britain will supply 620,000 tons (477,520 last year), Canada 100,000 tons (78,833), British West Indies 410,000 tons (375,000), British Guiana 160,000 tons (160,000), Mauritius 350,000 tons (335,000), British East Africa 37,000 tons (35,000), Australia 330,000 tons (180,000) and Fiji-Islands 125,000 tons (130,000).

For the calculations of the net import requirements there is of primary importance the extent of production and consumption within the British Empire. Moreover, the development of stocks plays a decisive role. A reduction of stocks lowers the import possibilities while an increase raises them. In 1947-48 we considered this fact in Great Britain and Canada. In 1948-49 the development of stocks cannot yet be estimated. Important changes can thus still result from the development of stocks in the future.

Two important factors to consider in determining the level of sugar imports needed by the United Kingdom are:

(1) The level of rationing.

(2) The supply of dollar exchange available for sugar imports from hard currency areas.

The two factors really are intertwined. Since the government does not allocate sufficient dollar exchange to purchase all the sugar needed from hard currency areas to satisfy the domestic demands at current price levels, it is necessary to ration sugar in order to secure equitable distribution of supplies under present price ceilings. *Therefore, the dollar position of the United Kingdom has an important bearing on the level of imports and sugar consumption.* Our estimates must be considered tentative and subject to these factors. Probably, sugar imports will be above the levels we estimated, if there were no need to ration sugar in order to conserve hard currencies.

Assuming these facts the net import requirements of foreign sugar of Great Britain and Canada can be estimated at 638,000 metric tons in 1948-49 against 743,647 tons last year (Table 3). In addition we estimate the net import requirements of the other countries of the British Empire at 377,000 metric tons, raw value in 1948-49 against 376,000 tons in 1947-48. Thus the total import requirements of foreign sugar of the British Empire can be estimated at 1,015,000 metric tons in 1948-49 against 1,119,647 tons in 1947-48.

The following table gives the sugar production of the British Empire in 1947-48 and 1948-49 :—

*Sugar Production of the British Empire.**

(in metric tons raw value)

Countries	*1948–49*†	*1947–48*†	*1946–47*	*1938–39*
Beet Sugar				
United Kingdom ...	6,20,000	4,77,520	6,28,787	3,26,249
Canada ...	1,00,000	78,833	1,03,818	72,117
Australia ...	2,000	2,000	1,144	1,669
Total beet sugar ...	7,22,000	5,58,353	7,33,749	4,00,035
Cane Sugar				
Br. West Indies ...	5,00,000	4,56,556	4,38,532	4,67,985
Br. Guiana ...	1,85,000	1,74,449	1,81,594	1,92,273
Union of South Africa ...	5,17,000	4,64,113	4,30,605	4,74,194
Mauritius ...	3,66,000	3,51,222	2,90,870	3,21,310
Br. East Africa ...	95,000	93,000	65,265	58,681
India (White sugar only)	13,50,000	12,00,000	11,68,851	8,64,164
Burma ...	10,000	10,000	2,000	......
Australia ...	8,15,000	6,13,664	5,60,222	8,29,908
Fiji-Islands ...	1,30,000	1,37,160	1,17,169	1,36,731
Total cane sugar ...	39,68,000	35,00,164	32,55,108	33,45,246
Total production ...	46,90,000	40,58,517	39,88,857	37,45,281

Sugar Production in the Far East

It would be of interest to note that during 1947-48, production of sugar in the three large producing areas of the Far East, namely, Java, Formosa, and the Philippines, will be nearly 3 million tons below the normal pre-war output, and it is extremely difficult to state as to when recovery to normal production in Java and Formosa will be witnessed. The Philippines, however, show the best prospects of early recovery, but under present world conditions the size of production in those islands has less than normal influence on the world's sugar position inasmuch as any additional output might serve merely to swell the tonnage of sugar available for the open market, the purchase of which would be beyond the means of most countries.

Strenuous efforts are being made in many other cane producing countries, and not least in those countries within the British Commonwealth and Empire, to add every ton possible to their output in order to meet the urgent need abroad. Lack of man-power and fertilisers,

* Estimated.
† *Vide* F. O. Licht's Report of 31-8-1948.

deterioration of plant and equipment, and the competing claims of other products are still seriously retarding recovery, whilst in some important areas adverse weather has been a grievous handicap to heavier output.

Large Surplus in Cuba Possible in 1948-49

The situation so far as Cuba is concerned may work out a little better, even if we reckon with another bumper crop this year. On the basis of the initial import quotas in the U.S.A., Cuba can place about 29,00,000 tons in the market. It is estimated that around one million tons has been sold to non-U.S. markets and that there is probable buying power eventually for a further half a million ton or possibly more. This, together with the 2,00,000 tons for local consumption, gives a total absorption this year of something over 46,00,000 tons.

Based on a production this year at, say, 56,00,000 tons, Cuba would then have upto one million tons to provide for carry-over stocks, plus any additional quantity which may later be added to Cuba's quota in the U.S.A. and any free market outlets which may offer themselves as the year progresses. There will, of course, be moderate quantities of sugar outside Cuba which carry the currency handicap. Such tonnage, however, should not be of any very serious embarrassment to the market.*

Pakistan's Policy of Development of Sugar Industry

The Sugar Panel appointed by the Pakistan Industrial Convention have proposed starting of ten sugar mills with a total production capacity of 1,35,000 tons of sugar per annum which is the approximate requirement of the West Punjab at present. The annual imports of sugar in Pakistan cost about Rs. 9.2 crores while the cost of the machinery installed for this purpose would come to only about Rs. 4.4 crores (*vide* Agricultural Review, issued by the Ministry of Agriculture, May 1948).

Reports appeared in October 1948, that due to high price of sugar in India, Pakistan was negotiating for supplies of sugar from Cuba, Brazil, etc. Her annual requirement is about 2,85,000 tons, while the present production is only about 22,000 tons.

We are afraid it will take a long time before Pakistan becomes self-sufficient in respect of her requirements of sugar.

Indian Tariff Board's Difficulty due to Paucity of Information re: World's Costs of Production and Production Trends

The above discussion is sufficient to show the great uncertainty regarding production and consumption of sugar during the next year or two, and the probable level of prices of sugar. Reliable figures about costs, etc. are not available and in view of the absence of stabilised conditions regarding prices, etc. it will be very difficult for the Tariff Board, who has been charged with an inquiry into the question of continuance of protection to the Indian Sugar Industry in 1948, to come to any very definite conclusion in respect of the quantum of protection required by the industry due to such absence of information regarding costs, and trends of production in competing countries. The question of

* *Vide* Report of Messrs. C. Czarnikow, Sugar Brokers and Economists, London, dated January 20, 1948, published in the *Australian Sugar Journal*, dated February 16, 1948.

currency difficulties also militates against imports, even if required, from foreign countries, and to our mind it is not probable that any large-sized imports of sugar would be available to India due to one or other difficulty narrated above. We therefore feel that it is imperative, in the present world conditions, for India to maintain her industry at its present level, and to consider the possibility of exports, if this is possible, to adjacent countries. This latter, however, would depend greatly upon the possibility of a reduction in the price of sugar in the country. We hope and trust that it will be possible for the Government to reduce the price of sugar by effecting a considerable reduction in the price of the raw material, namely, cane, as also by effecting economy to some extent in other directions, e.g. by improving the technical efficiency of factories.

Claim for Maintaining Industry Unimpaired

We strongly urge that the integrity of the sugar industry should be maintained unimpaired and no step should be taken which would create any hopes to any sugar producing country of the world to build up a market in India, to the detriment of the national sugarcane industry, which is of considerable strategic value, merely for the reason that it is possible for those countries to produce sugar a little cheaper as compared with India. Sugarcane cultivation is an integral part of the agricultural economy of the country and there would be no point or purpose in giving a shock to it by permitting import of sugar at lower rates out of regard for the short-term interests of the consumer. The interests of the consumer would lie in the steady supply of sugar at as cheap rates as possible from internal sources, and in this case as the sugarcane industry, both in its cultivation and manufacturing aspects, is of vital importance to the nation, no advantage would be gained by subjecting it to unnecessary shock. The remedy, if any, for improving the present position of the industry lies in a general overall improvement and efficiency of Indian agriculture, and consequently, sugarcane cultivation; which can only be achieved at the earliest date by comprehensive research work, expenditure on which should be liberally allowed by the Government out of the large revenues of over 6 crores which accrue annually to them from the excise duty on sugar.

Curtailment of Expenditure on Research, a False Economy

We feel that it is a false economy to curtail expenditure on research, particularly when we see that the sugar industry in other countries of the world, namely, Java, Cuba and Philippines, has been able to achieve its present status only by comprehensive research work carried on efficiently over a number of years. We therefore urge with all the emphasis at our command upon the Government of India the necessity of carrying on comprehensive research work with a view to bringing down the cost of production of sugarcane and sugar in the country.

Like the Hon'ble Minister of Agriculture and Food who considers the present high price of sugar a danger signal, we consider any curtailment in the grant of Re. 0-4-0 per cwt. for research work as a danger signal for the entire agricultural economy of the country. Besides, we see no reasonable or rational argument to reverse the decision of increasing the grant arrived at only last year. We suggest its immediate restoration.

Indian Sugar Industry's Development must be steadily maintained

The romantic development of the sugar industry since 1932 and the magnificent contribution it has made towards meeting the urgent demands of sugar during this period, including the six years of World War, must meet with the highest appreciation of the public and the State. It is undoubted that the industry has fully justified the measure of liberal protection granted to it. The war has also revealed the necessity of strengthening the position of this industry for any emergency which may crop up. Its further development has also become necessary due to the requirements of the millions in this country of an energising food containing 100 per cent carbohydrates of which there is a short supply in India and in the whole world at the present time. The country was starved of supplies of sugar in spite of the policy of the Government to maximise sugar production in the country, because except in one year, namely, 1943-44, it was not possible to increase production of sugar to a figure higher than the production during the war period. This was due, however, to several bottlenecks, namely, a decrease in the supply of cane in suitable quantities, of raw materials, of transport, lack of a co-ordinated policy, etc. The production has now reached about 11 lakhs tons. The Government of India has recommended the further expansion of the industry and has estimated that the demand of sugar will grow to 16 lakhs tons in the years to come. We entirely agree with this view. We earnestly hope and trust that the new National Government installed at the Centre after the grant of independence to India on the 15th August 1947, will take a live interest in the development and welfare of this industry, and take all measures to ensure a proper development of the industry all over the country, and thus enable the various provinces to derive suitable benefit from it.

Minister for Agriculture should help in restoring Research Grant

We also trust that the Indian Central Sugarcane Committee will immediately draw up short-term and long-term plans of research on a comprehensive scale for bringing down the cost of production of sugar in the country, although it has been a great disappointment to find that at the present moment the Government of India have decided, perhaps, as a measure of their anti-inflationary policy, to curtail the grant for research from its erstwhile level of 4 annas per cwt. to 1 anna per cwt. We hope that the Hon'ble the Minister for Food and Agriculture will be able to persuade the Government of India to restore the grant at as early a date as possible to the level agreed to by the Government themselves on the recommendation of the Tariff Board, 1947. If it is possible to achieve a reduction in the cost of production of sugar to an appreciable extent before long, it will also help to increase consumption of sugar in the country and in adding to the quantity of supply of a nutritive article of diet to the people. This will also enable India to occupy an important place among the sugar producing countries of the world, and even to export some quantity to neighbouring countries. A well-planned programme and policy on practical lines, prepared in close co-operation with the industry, is absolutely necessary for a thorough reorganisation of the industry with a view to achieving efficiency in every sphere of its operation. We hope that the Ministry of Agriculture and the industry will not be found wanting and that they will do their very best to achieve this desideratum of bringing about a reduction in the price of sugar at an early date.

Industry has fully justified Protection

We have shown beyond doubt that there are possibilities for the further expansion of the industry during the next decade with a view to catering for the increased demands of both sugar and *gur* which are bound to result from the success of the plans being undertaken by Government for the economic development of the country. We also feel that Government should evince the greatest care and concern for safeguarding and supporting this large national industry which has a unique place in the agricultural economy of India and which has stood by the country during the war period and made available supplies of both sugar and *gur* at reasonable rates without profiteering and even without having regard for its financial condition (some units have had to sustain losses during 1945-46 and 1946-47), in appreciation of the effects of such a far-sighted policy on the minds of the general public which has helped in the establishment of this industry, aided no doubt by the impetus of a liberal tariff policy adopted by the State since 1932.

There is no doubt whatsoever that the industry can legitimately claim to have served the country satisfactorily and it would be the solemn duty of the Dominion Parliament and Government to look after this industry which has responded so magnificently to the country's call and which has so thoroughly justified the grant of protection, in the years to come, and to plan suitable measures for its further development in a manner which would ensure the amelioration of the condition of 2 crores of agriculturists, 1,30,000 labour, 3,500 University men, a large number of transport workers and persons engaged in the village industry of the manufacture of *gur*, and also guarantee a fair financial return to the industrialists and investors whose investment may be estimated at over Rs. 33 crores, and which has stopped the drain from the country of 16 crores of rupees per annum with the cessation of sugar imports from 1936 onwards.

Increase in Production is the Paramount Need

Of the utmost importance at this juncture, however, in our view, is planning for increased production of sugar, and it is the duty of all the interests concerned to co-operate in such a manner by maintenance of friendly and peaceful relations that this goal is achieved, so that it may be possible for India to provide plentiful quantities of sugar,* an energising food, for meeting the needs of nutrition of the people, and for exporting to other countries like Afghanistan, Nepal, Tibet, Burma, Persia, Ceylon, Pakistan, etc.

Assurance for Continuance of Protection for Long Term Essential

We also trust that the Government of India will give the fullest assurance at the earliest date about the continuance of protection to the cultivation of sugarcane and manufacture of sugar so long as it is necessary, against any possible large-sized imports of sugar from foreign countries at rates calculated to cripple the integrity of such a vital industry. We also hope that the Government will extend

* *Vide* Mr. M. P. Gandhi's "Problems of Sugar Industry in India—Scope and Prospects of Re-organisation in the Post-War Period", being a comprehensive survey of the industry since the grant of protection in 1932, and outlining the new optimum production and consumption of sugar in India in the years to come, with a foreword by Sir Purshotamdas Thakurdas, pp. 425; price Rs. 12.

every help and assistance to the industry for undertaking intensified research work on a large scale for reducing the cost of production, for increasing the production of sugar and *gur* to at least double its present production, in order to provide at least 2 ozs. of sugar per day, as part of a well-balanced nutritive diet for a citizen of the country, and by utilizing an important by-product of the industry, viz. molasses, now running to waste, lay the foundation of a new industry for manufacture of power-alcohol, which will materially assist at once in easing the acute problem of transportation in the country, and in reducing the dependence of India on foreign countries for supply of petrol, to some extent.

SPECIAL STRESS IN THIS YEAR'S *ANNUAL* IS LAID ON THE FOLLOWING :—

- Futility of an elaborate Tariff Inquiry into the question of continuance of protection to sugar at the present juncture, in view of instability of conditions in the industry both in India and in the world and consequent inability to form a correct idea (i) of costs of production which are fluctuating due to a variety of reasons, (ii) of the trend of world's sugar trade due to difficulties of hard currency, transport and local legislation, and (iii) of production and consumption in the next few years, due to prevalence of insecure conditions in the various countries, absence of reliable statistics of production in Russia, Java, etc., absence of any International Sugar Agreement since 1948, etc. (pp. 53 ; 55-56 ; 120-136).
- Assurance of continuance of protection by the Government of India for the next few years, in order to protect the agricultural economy of India, which will be essential as long as the cost of production of sugar and sugarcane is not brought down appreciably to the level of other important sugar producing countries (pp. 53 ; 55-58 ; 119-120 ; 132-34).
- Organisation of intensified agricultural research under the auspices of the Indian Central Sugarcane Committee for achieving a higher yield of cane per acre, a further improvement of quality and a reduction in the cost of production, and to that end, the imperative need of restoration of the grant agreed to by the Government of India in 1947, at the rate of Re. 0-4-0 per cwt. of the excise duty on sugar, calculated to yield a sum of about Rs. 50 lakhs per year for research work (pp. 82 ; 100 ; 117-120 ; 133-34).
- The evolution of a common central sugar sales organisation, on the lines of NIVAS of Java, embracing every sugar factory in the country, for ensuring equality of conditions *inter se*, and of a fair distribution of sugar at appropriate prices (pp. 114-15).
- Necessity of implementing measures for improving the manufacture of *gur*, a village industry, spread over the rural areas in the various Provinces, and of encouraging manufacture of Palm *gur* (pp. 24-25-26 ; 31-32).
- Reduction of price of sugar by reduction in the price of cane and a lowering of the sugarcane cess, for increasing the consumption of sugar (pp. 39 ; 41-42 ; 79-80 ; 87-88).
- Maximisation of sugar and *gur* production for providing a nutrient article of diet to the population of the country (pp. 31-32 ; 135).

15th November 1948. M. P. GANDHI.

APPENDIX TO THE ANNUAL FOR 1947-48

LIST OF SUGAR MILLS IN THE UNION OF INDIA AND PAKISTAN

WORKING AND PROJECTED (1947-48)

THOROUGHLY REVISED AND BROUGHT UP-TO-DATE

9 Mills are situated in Pakistan. 5 Of these, are in Eastern Bengal, 2 in Western Punjab and 2 in the North-West Frontier Province.

The production of sugar in Pakistan in 1946-47 was 20,866 tons, representing only 2.25% of the production in the Union of India. The Consumption of Pakistan is estimated at 2,85,000 tons per year. The acreage under cane in Pakistan was roughly 6 lacs acres.

If you would like any alteration
Please let us know without hesitation.
We will incorporate your suggestion
In this Annual's forthcoming edition.

Publishers:—G A N D H I & C O. (*Publishers*),
Jan Mansion, Sir Pherozeshah Mehta Road,
FORT-BOMBAY 1.

Telegrams: "KEEN", BOMBAY.

October, 1948.

Telephone: *Office*: 25061; [illegible] *Res.*: 43026

DETAILED LIST OF SUGAR MILLS (VACUUM PAN) IN THE UNION OF INDIA AND IN PAKISTAN 1948

WORKING AS WELL AS PROJECTED

(Union of India)

NOTES:—*Asterisk in the last but one column denotes mills which have also got Gur-refining plants.*

† *Mills marked thus did not work during the 1947–48 season.*

‡ ,, ,, ,, *are reported to be under construction.*

"S" = Sulphitation. "DS" = Double Sulphitation. "C" = Carbonatation. "DC" = Double Carbonatation.

Three Mills viz., No. 23 in Bihar, and 29 and 36 in the U.P. were allowed to be shifted to other areas in 1947.

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
	WEST BENGAL						
1.	†Shree Radha Krishna Sugar Mills, Ltd., Lessees: Bengal Pioneer Agricul. Farm Ltd., 138, Harrison Road, Calcutta. Tele { Grams: Sugarsweet, Cal. Phone: B. B. 2203.	Beldanga. (Tel. Sugarsweet, Beldanga).	Murshidabad.	Beldanga, E. I. Rly.	Lalgola.	750	DS
2.	The Ramnugger Cane & Sugar Co., Ltd., M/A. M/S. Anderson, Wright & Co., 7, Wellesley Place, Calcutta. Tele { Grams: Amasis, Calcutta. Phone: Calcutta 4300.	Plassey P. O.	Nadia.	Plassey, E. I. Rly.	Do.	500/700	DS
3.	†Rajluxmi Sugar Mills, M/A. Kartick Bose & Sons, Dr. Bose's Laboratory, Ltd., 45, Amherst Street, Calcutta. Tele { Grams: Lactic, Calcutta. Phone: B. B. 415.	Maitra Bagan, Basirhat.	24 Parganas.	Maitra Bagan Rly. Siding B. B. L. R.	...	7.	S

4. ‡All India Sugar Mills Ltd., M/A. M/S. Chakraborty Roy & Co., Ltd., 1, British Indian Street, Calcutta. Tele { Grams : Chini, Calcutta. Tele { Phone : Cal. 4498.	Habra.	Do.	Habra, E. I. Rly.	...	600	
BIHAR						
1. Sakri Sugar Factory of The Durbhanga Sugar Co., Ltd., Registered Office: Lohat P.O., Dist. Darbhanga. Tele { Grams : Sugar, Lohat. Tele { Phone : Darbhanga 53A.	Sakri P. O. (Tel. Sakri, Factory, Sakri. Telephone : Darbhanga 53.)	Darbhanga.	Sakri, O. T. Rly.	Semaria Ghat.	700	S
2. Lohat Sugar Factory of The Durbhanga Sugar Co., Ltd., Registered Office: Lohat P.O. Dist. Darbhanga. Tele { Grams : Sugar, Lohat. Tele { Phone : Darbhanga 53A.	Lohat P. O. (Tel. Lohat Factory, Lohat. Telephone : Darbhanga 53A.)	Do.	Pandaul, Do. (Goods : Lohat Sinding).	Do.	1300	S
3. Ryam Sugar Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Kanpur, U.P. Tele { Grams : Begg, Kanpur. Tele { Phone : Kanpur 2313.	Ryam Factory P. O. (Tel. Ryam Factory, Tarsarai.)	Do.	Tarsarai, Do.	Do.	779	C
4. Samastipur Central Sugar Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Kanpur, U.P. Tele { Grams : Begg, Kanpur. Tele { Phone : Kanpur 2313.	Samastipur. (Tel. Central, Samastipur.)	Do.	Samastipur, Do.	Do.	795	S
5. New India Sugar Mills Ltd., M/A. Cotton Agents, Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams : Cotagent, Calcutta. Tele { Phone : Calcutta 562.	Hassanpur Rd., P. O. Hassanpur Sugar Mill, (Tel. "Birla" Hassanpur Sugar Mills.)	Do.	Hassanpur Road, Do.	Do.	1100/1300	DS

Name of Mill, with full name and address of *Managing Agents or Proprietors*	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
6. Motipur Sugar Factory Ltd., M/D. Seth Haji Abdul Rahim Oosman, 2, Rajmohan Street, Calcutta. Tele { Grams: Muslim, Calcutta. Phone: B. B. 2460.	Motipur. (Tel. Sattar, Motipur, Talabgar and Muzaffarpur, Phone: Muzaffarpur 65.)	Muzaffarpur.	Motipur, O. T. Rly.	Paleza Ghat.	1300	DC
7. Belsund Sugar Co., Ltd.. M/A. James Finlay & Co., Ltd., 2, Netaji Subhas Road, Calcutta. Tele { Grams: Mercator, Calcutta. Phone: Calcutta 4600.	Righa P. O. (Tel. Mitha, Righa).	Do.	Riga, Do.	Semaria	850	DS
8. Champarun Sugar Co., Ltd., *Barrah Factory,* M/A. Begg, Sutherland & Co., Ltd., P. O. Box. No. 21, Kanpur, U.P. Tele { Grams: Begg, Kanpur. Phone: Kanpur 2313.	Bara-Chakia P. O. (Tel. Cane. Bara-Chakia).	Champaran.	Chakia, Do.	Paleza Ghat.	932	C
9. Shree Hanuman Sugar Mills, Ltd., M/A. Shree Hanuman Investment Co., Ltd., 178, Harrison Road, Calcutta. Tele { Grams: Hopwoda, Calcutta. Phone: B. B. 4501 (3 Lines).	Motihari (Tel. Sugar Motihari, Telephone No. 60.)	Do.	Motihari Do.	Do.	800	DC
10. The Sugauli Sugar Works, Ltd., M/D. Mr. Md. Hanif & Mr. Amjadali, 3 & 5, Rajmohan Street, Calcutta.	Sugauli, (Tel. Taj Sugauli.)	Do.	Sagauli. Do.	Do.	900	DS
11. Motilal Padampat Sugar Mills Co., Ltd., H. O. Kamla Tower, Kanpur. U.P. Tele { Grams: Motipat, Kanpur. Phone: 2532-34.	Majhaulia. (Tel. Motipat, Majhaulia.)	Do.	Majhaulia, Do.	Do.	1000	DS

12.	Champarun Sugar Co., Ltd., Chanpatia Factory. M/A. Begg Sutherland & Co., Ltd., Post Box No. 21. Kanpur, U.P. Tele { Grams: Begg, Kanpur. Tele { Phone: Kanpur 2313.	Chanpatia, (Tel. Chansuco Chanpatia.)	Do.	Chanpatia.	Do.	Do.	870	S
13.	S. K. G. Sugar Ltd., M/A. Dalmia Jain & Co., Ltd., Dalmianagar, Sahabad. Tele { Grams: Dalmiajain, Dalmianagar. Tele { Phone: Dalmianagar 8.	Lauriya P.O. (Tele. Dalmiajain, Lauriya.)	Do.	Do.	Do.	Paleza Ghat	650	DS
14.	The New Swadeshi Sugar Mills Ltd., M/A. Cotton Agents Ltd., (1) 8, Royal Exchange Place, Calcutta. Tele { Grams: Cotagent, Calcutta. Tele { Phone: Calcutta 562. (2) Imperial Bank Bldg., Bank St., Bombay. Tele { Grams: Lucky, Bombay. Tele { Phone: Bombay 27046.	Narkatiagunj (Tel. Birla, Narkatiagunj)	Do.	Narkatiaganj.	Do.	Do.	900	DS
15.	Harinagar Sugar Mills Ltd., M/A. Naryanlal Bansilal, 207, Kalbadevi Road, Bombay 2, Tele { Grams: Cryssugar, Bombay. Tele { Phone: Bombay 30841.	P.O. Harinagar. (Tel. Maryada, Ramnagar, Champaran.)	Do.	Harinagr	Do.	Do.	1400/1500	DS
16.	Ganga Devi Sugar Mills, Ltd., M/A. Marwari Brothers, Naraipore Bagaha P. O. (Tele. Ganga, Bagaha.)	Naraipur P.O.	Do.	Bagaha.	Do.	Do.	650	DS
17.	Gaya Sugar Mills, Ltd., Managing Director, Lala Guru Sharan Lal, C.I.E., 15, Netaji Subhas Road, Calcutta. Telephone: Calcutta, 1457.	Guraru, P.O. Guraru Mills. (Tel. Sugar mills. Gaya. Tel. Gaya 78.)	Gaya.	Guraru, E.I.R.		Patna	850	DS

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
18. †Gaya Sugar Mills, Ltd., Managing Director, Lala Guru Sharan Lal, C.I.E., 15, Netaji Subhas Road, Calcutta. Telephone: Calcutta 1457.	Warisaliganj (Tel. Sugar mill, Warisaliganj.)	Gaya.	Warisaliganj, E.I.R.	Patna	2000	DC/DS
19. The South Bihar Sugar Mills, Ltd., M/A. N. K. Jain & Co., Ltd., 9, Netaji Subhas Road, Calcutta. Tele { Grams: Ibagencies, Calcutta. Phone: Calcutta 5977. Sugar Factory now under Lessees: M/S. Jagdishpore Zamindary Co., Ltd., Devashram, Arrah. Tele { Grams: Jineswar, Arrah. Phone: Arrah 14.	Bihta. (Telegrams: Sugar, Bhita Phone: Dinapore, 30.) Telegrams: Jineshwar, Bihta.	Patna.	Bihta Do.	Digha.	1200	DS
20. Mohini Sugar Mills Ltd., M/A. Messrs. Karamchand Thapar & Brothers Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. Phone: Calcutta. 2331/2.	Bikramganj P.O. Bikramganj (Tel. Spiritual Bikramganj.)	Shahabad.	Bikramganj, A.S.L.Ry.	Sinha 40 Miles Buxar. 40 Miles.	700	DS
21. Rohtas Industries, Ltd., M/A. M/S. Dalmia Jain & Co., Ltd., P. O. Dalmianagar (Shahabad). Tele { Grams: Dalmiajain, Dalmianagar. Phone: Dalmianagar 8.	P.O. Dalmianagar.	Do.	Dehri-on-Sone, E.I.R.	Buxar.	1800	DC/DS
22. †Ganga Deshi Sugar Factory, Ltd., M/D. Mr. Behari Lal, Buxar, (Tel. Sugar, Buxar).	Buxar. P.O. Buxar- Gajadharganj.	Do.	Buxar, Do.	Do.	100	S

23.	Sitalpore Sugar Works, Ltd., M/D. M/S. H. K. Ghosh & T. N. Dutta, (1) 93A, Dharamtolla Street, Calcutta. Telephone : Calcutta 2622. (2) Indian Press Buildings, Allahabad. (Local Office: Sahibaganj, Chapra).	Sitalpore, (Tel. Kamala, Sitalpore, O.T.)	Saran.	Sitalpore, O. T. Rly.	Baghi.	800	DS
		[Allowed to be shifted from Sitalpore to Goraul (Muzaffarpur) under license No. 5469 D dated 6-11-1947 of the U.P. Government]					
24.	Cawnpore Sugar Works, Ltd., Marhowrah Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Kanpur U.P. Tele { Grams: Begg, Kanpur. Tele { Phone: Kanpur 2313.	Marhowrah. (Tel. Marsuco, Marhowrah).	Saran.	Marhowrah, O. T. Rly.	Revelganj.	939	DC
25.	†Maharajganj Sugar Factory, Prop. M/S. Tusiram Bhagawandas, 61, Keshab Chandra Sen Street, Calcutta. Telephone B.B. 311.	Maharajganj.	Do.	Maharajganj, Do.	Do.	400	DS
26.	The Behar Sugar Works, of the Industrial Corporation, Ltd. M/A. Bakubhai Ambalal & Co., P. B. 28, Ahmedabad. Tele { Grams: Indus, Ahmedabad. Tele { Phone: Ahmedabad 5001. H. O. Bastion Road, Fort, Bombay. Tele { Grams: Indus, Bombay. Tele { Phone: Bombay 22497.	Pachrukhi (Tel. Indus, Pachrukhi).	Do.	Pachrukhi, Do.	Palezaghat.	1100	DC
27.	New Savan Sugar & Gur Refining Co, Ltd., Lessees: The Standard Refinery & Distillery Co., Ltd., M/A. M/S. Karam Chand Thapar & Bros., Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. Tele { Phone: Calcutta 2331-2.	Siwan. (Tel. Sugar Siwan).	Do.	Savan, Do.	Siswan Ghat, O.A.	900	DS

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
28.	Indian Sugar Works, Lessee: Shaikh Khoda Bakhsh, P. O. Siwan, Dist. Saran. (Tel. Deen, Siwan.)	Siwan.	Saran.	Savan. O. T. Rly.	Savan, O.A.	700	DS
29.	Bharat Sugar Mills Ltd., M/A. Cotton Agents Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams: Cotagent, Calcutta. Phone: Calcutta 562.	Sidhwalia. (Tel. Birla, Sidhwalia).	Do.	Sidhwalia, Do.	Revelganj & Palezaghat.	650	DS
30.	Sasa Musa Sugar Works, Ltd., M/A. Mousell & Co., Ltd., P. B. 2164, Calcutta. Tele { Grams: Diogenes, Calcutta. Phone: Calcutta 2666.	Sasa Musa. (Tel. Factory— Sasa Musa.)	Do.	Sasa Musa, Do.	Palezaghat.	800	DS
31.	The Vishnu Sugar Mills, Ltd., M/A. Bilasrai Banarsilal & Co., Agakhan Building, Dalal Street, Fort, Bombay. (Tel. Brijbilas, Bombay.)	Gopalganj. (Tel. Visnu–Gopalganj).	Do.	Harkhua, Do.	Revelganj.	800	DS
32.	S. K. G. Sugar Ltd., M/A. Dalmia Jain & Co., Ltd., P. O. Dalmianagar, Dist. Shahabad. Tele { Grams: Dalmiajain, Dalmianagar. Phone: Dalmianagar 8.	Hathua, P.O. Mirganj. (Tel. Dalmiajain, Mirganj. Phone— Hathwa 4 & 5.)	Do.	Hathua, Do.	Palezaghat.	1400/1500	DS
	UNITED PROVINCES						
1.	Purtabpore Co., Ltd., M/A. Begg, Sutherland & Co., P. O. Box No. 21, Kanpur, U.P. Tele { Grams: Begg, Kanpur, Phone: Kanpur 2313.	Mairwa. (Tel. Sucrose— Mairwa).	Deoria.	Mairwa, Do.	Revelganj.	784	DC
2.	† Noori Sugar Works, Prop. Noori Mian & Co., Bhatni. (Tel. Noori, Bhatni.)	Bhatni.	Do.	Bhatni, Do.	Barhaj.	726	DS

3.	Shree Sitaram Sugar Co., Ltd., M/A. Karamchand Thapar & Bros., Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. { Phone: Calcutta. 2331-2.	Baitalpur, P.O. Deoria, (Tel. Spiritual Baitalpur, Deoria.)	Do.	Baitalpur,	Do.	Do.	900	DS
4.	Cawnpore Sugar Works, Ltd., Gauri Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Kanpur, U.P. Tele { Grams: Begg, Kanpur. { Phone: Kanpur 2313.	Gauribazar, P. O. (Tel. Gaursuco, Gauribazar.)	Do.	Gauribazar,	Do.	Do.	738	DS
5.	Deoria Sugar Mills, Ltd., M/A. Karamchand Thapar & Bros., Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. { Phone: Calcutta. 2331/2.	Deoria. (Tel. Spiritual, Deoria.)	Do.	Deoria Sadar,	Do.	Do.	900	DS
6.	† Deoria Baitalpur Sindhi Mills, Ltd., Prop. M/S. Shree Sitaram Sugar Co., Ltd., & M/S. Deoria Sugar Mills, Ltd., M/A. M/S. Karamchand Thapar & Bros, Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. { Phone: Calcutta 2331-2.	Deoria. (Tel. Spiritual, Deoria.)	Do.	Do.	Do.	Do.	351	DS
7.	Saraya Sugar Factory, Managing Partner, Sardar Sir Surendra Singh Majithia, Kt., Sardarnagar, Tele { Grams: Majithias, Sardarnagar. { Phone: Gorakhpur 88.	Sardarnagar.	Gorakhpur.	Sardarnagar,	Do.	Do.	2129	DS
8.	Diamond SugarMills, Ltd., M/A. Murarka & Sons, Ltd. 4-E., Dalhousie Square, Stephen House, Calcutta. Tele { Grams: Canesugar, Calcutta. { Phone: Calcutta 1003 & 1349.	Pipraich. (Tel. Diamond, Gorakhpur.)	Do.	Pipraich.	Do.	Do.	700/800	DS

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
9. † Pipraich Sugar Mills, Ltd., M/A. Mr. Mohammad Ashfaq, B.A., General Manager.	Pipraich. (Tel. Pipraichmill, Pipraich. Telephone : Gorakhpur 25.)	Gorakhpur.	Pipraich, O.T.Rly.	Barhaj.	650	S
10. The Shankar Sugar Mills, Ltd., M/A. Inderchand Hariram, Captainganj.	Captainganj. (Tel. Sugar, Captainganj.)	Deoria.	Captainganj, Do.	Do.	896	DS
11. The Punjab Sugar Mills, Co., Ltd., Managers, Messrs. Narang Bros. & Co., Ltd., 11, Siri Ram Road, Delhi.	Ghughli. Tel. Factory, Ghughli, R. S.	Gorakhpur.	Ghughli, Do.	Do.	869	DS
12. Mahabir Sugar Mills, Ltd., M/A. Dwarkadas Baijnath, Siswa Bazar.	Siswa Bazar. (Tel. Mahabirji, Siswa Bazar.)	Do.	Siswa Bazar, Do.	Do.	620	DS
13. The Vishnu Pratap Sugar Works, Ltd., M/D. Raja Bahadur Raja Braj Narain Singh, C.B.E., Padrauna Raj. (Tel. Sugar, Rajabazar, Khadda.)	Khadda.	Deoria.	Khadda, Do.	Do.	761	DS
14. The Lakshmi Devi Sugar Mills, Ltd., M/A. Messrs. Agarwal & Co., P. O. Chhitauni. Telephone: Padrauna 3.	Chhitauni	Do.	Chhitauni, Do.	Do.	700/750	DS
15. Ishwari Khetan Sugar Mills, Ltd., M/A. Devidutt Surajmull, Padrauna, Deoria. Tele { Grams: Khetan, Padrauna. Phone: Padrauna 3.	Lakshmiganj. (Tel. Khetan, Lakshmiganj. Telephone : Padrauna 4x.)	Do.	Lakshmiganj, Do.	Do.	732*	DS
16. The Ramkola Sugar Mill Co., Ltd.,	Ramkola. (Tel. Sugar, Ramkola. Phone Padrauna 18.)	Do.	Ramkola, Do.	Revelganj.	900	DS

17.	Maheshwari Khetan Sugar Ltd., M/A. Messrs. Devidutt Chaturbhuj, P. O. Ramkola, (Tele. Khetan, Ramkola.)	Ramkola. (Telephone : Padrauna 4.)	Do.	Do. Do.	Barhaj.	779	DS
18.	Padrauna Rajkrishna Sugar Works, Ltd., M/D. R. B. Kr. Rudra Pratap Narain Singh, "Jagdis Garh", Padrauna, Tele { Grams: Krishna, Padrauna. Phone: Padrauna 7.	Padrauna. (Telephone No. 6.)	Do.	Padrauna, Do.	Do.	800	S
19.	Jagadish Sugar Mills, Ltd., Raja Bahadur Brijnarain Singh Sahib, Authorised Controller. Tele { Grams: Jagadish, Padrauna. Phone: Padrauna 15.	Kathkuiyan, (Padrauna P. O.)	Do.	Kathkuiyan, Do.	Do.	650	DS
20.	The United Provinces Sugar Co., Ltd., M/A. James Finlay & Co, Ltd., 2, Netaji Subhas Road, Calcutta. Tele { Grams: Mercator, Calcutta. Phone: Calcutta 4600.	Seorahi P. O., (Tel. Chini, Seorahi.)	Do.	Tamkohi Rd., Do.	Do.	925	DS
21.	Ganesh Sugar Mills Ltd., M/A. Poddar Jaipuria & Co., Jaipuria Concern, 100, Netaji Subhas Road, Calcutta. Tele { Grams: Jaipuria, Calcutta. Phone: Calcutta 2051 & Cal. 2469.	P. O. Anandnagar. (Tel. Ganesh— Pharenda, O. T.)	Gorakhpur.	Pharenda, Do.	Do.	900	DS
22.	†Shree Sardar Sugar Mills Co., Proprietors: Champalal Dhanpat Singh, Head Office: 11, Armenian Street, Calcutta. Phone: B. B. 2604.	Ramchandri, P. O. Nichloul.	Do.	Siswa Bazar, Do.	Do.	80	DS
23.	The Madho Kanhaya Mahesh Gouri Sugar Mills, Ltd.	Munderwa. (Tel. Jagdish Munderwa.)	Basti.	Munderwa, Do.	Do.	700/800	DS

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
24.	Basti Factory of The Basti Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., Kapur Building, Hathi Gate, Amritsar. Delhi Office : 11, Siri Ram Road, Delhi.	Basti. (Tel. Factory, Basti.)	Basti.	Basti, O.T.Rly.	Ajodhyaghat.	900/1000	DC
25.	Walterganj Factory of The Basti Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., Kapur Building, Hathi Gate, Amritsar. Delhi Office : 11, Siri Ram Road, Delhi.	Walterganj. (Tel. Sugar, Walterganj.)	Do.	Walterganj, Do.	Do.	800/850	DS
26.	Barhni Sugar Mills, Proprietors : The Delhi Cloth and General Mills Co., Ltd., Delhi. Tele { Grams : Yarn, Delhi. Phone : Delhi 5914, 5915, 5916.	Barhni P. O. Ramdatganj, (Tel. Sugar, Barhni, O. T.)	Do.	Barhni, Do.	Barhaj.	800/1000	DS
27.	Shree Anand Sugar Mills Ltd., M/A. Agarwal Sugar Agents Ltd., Jaipuria Concern, 100, Netaji Subhas Road, Calcutta. Tele { Grams : Jaipuria, Calcutta. Phone : Calcutta 2061 & Cal. 2462.	Khalilabad. (Tel. Shreean and Khalilabad.)	Do.	Khalilabad, Do.	Do.	650	DS
28.	The Seksaria Sugar Mills, Ltd., M/A. Govindram Ramnath & Co., Seksaria Chambers, 139, Medows Street, Fort, Bombay. Tele { Grams : Fairtrade, Bombay. Phone : Bombay 34627.	Babhnan. (Tel. Seksariaco, Babhnan.)	Gonda.	Babhnan, Do.	Do.	80(	DS

29.	Nawabganj Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., Kapur Building, Hathi Gate, Amritsar Operating Office: 10A Cavalry Lines, Delhi, Telegrams: Narang, Amritsar.	Nawabganj. (Tel. Sugarmills, Nawabganj, Gonda.)	Do.	Nawabganj, Do.	Ajodhya Ghat.	1850	DS
			[was allowed to shift its gillain plant from Nawabganj to Baral (Bulandshaher) under license No. 10 dated 5—4—1948 from the U. P. Government.]				
30.	Balrampur Sugar Co., Ltd., Balrampur Factory, M/A. Begg Sutherland & Co., Ltd., P. O. Box No. 21, Kanpur, U.P. Tele { Grams: Begg, Kanpur. Phone: Kanpur 2313.	Balrampur. (Tel. Balsuco, Balrampur. Telephone: Balrampur 37.)	Gonda.	Balrampur, O. T. Rly.	Barhaj	768	DS
31.	Balrampur Sugar Co., Ltd., Tulsipur Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Kanpur Road. Tele { Grams: Begg, Kanpur, Phone: Kanpur 2313.	Tulsipur. (Tel. Talsuco, Tulsipur.)	Do.	Tulsipur, Do.	Ajodhya Ghat.	746	DS
32.	R. B. Seth Lachmandas Mohanlal & Sons Sugar Mills, Managing Director, R. B. Lachman Dass, Jarwal Road.	P. O. Jarwal Road. (Tel. Laxmansons, Jarwal Road.)	Bahraich	Jarwal Road, Do.	Do.	860	DS
33.	The Burhwal Sugar Mills, Co. Ltd., Managing Directors: 1. Pt. Durga Shankar Dixit, 2. Lala Daya Ram, Collectorganj, Cawnpore. Tele { Grams: Busumills, Kanpur Phone: Kanpur 2758.	Burhwal, (Tel. Busamills Burhwal.)	Barabanki.	Burhwal, Do.	Do.	650	DS
34.	Seth Ramchand & Sons Sugar Mills, Barabanki.	Barabanki. (Tel. Malaco, Barabanki. Phone: Lucknow 859)	Do.	Barabanki, O.T.Ry. & E.I.Ry	Do.	793*	DS

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
35.	Ratna Sugar Mills Co., Ltd., M/A. Kashiprasad & Co., 107, Street Field Road, Benares City. (Tel. Ratna, Benares)	Shahganj. (Tel. Ratna, Shahganj, Jaunpur.)	Jaunpur.	Shahganj. E.I.R. & O.T.Rly.	Balia.	751	DS
36.	†Shree Krishna Deshi Sugar Works, Lessees, Jai Narain Pershad & Co., Jhusi (Allahabad)	Jhusi. (Tel. Sugar-mills, Jhusi. Phone Allahabad 269)	Allahabad.	Jhusi, O.T.R.	Do.	600*	DS
				[was allowed to be shifted from Jhusi to Baraut (Meerut) under license No. 9 Dated 1-9-47. by the U.P. Government]			
37.	†Tribeni Deshi Sugar Works, Lessee, L. Jainarain Prasad Agarwal, Naini, (Tel. Madho, Naini).	Naini	Do.	Naini, E.I.R. & G.I.P.R.	Buxar.	300*	S
38.	The Lakshmi Sugar & Oil Mills Ltd., Head Office: Hardoi, Managing Agents: Rai Bahadur Bansidhar Son & Co.	Hardoi. (Tel. Laksmi, Hardoi.)	Hardoi.	Hardoi E.I.R.	Do.	1565	DS
39.	The Seksaria Biswan Sugar Factory, Ltd., M/A. The Seksaria Industries Ltd., Seksaria Chambers, 139, Medows Street, Fort, Bombay.	Biswan, (Tel. Factory Biswan,)	Sitapur.	Biswan, O.T.Ry.	Ajodhya Ghat.	1200 Double-Tandem	S
40.	The Oudh Sugar Mills Ltd., M/A. Cotton Agents Ltd., (1) Imperial Bank Building, Bank Street, Bombay. Tele { Grams: Lucky, Bombay. Phone: Bombay 27046 4 lines & 33745. (2) 8, Royal Exchange Place, Calcutta. Tele { Grams: Cotagent, Calcutta. Phone: Calcutta 562.	Hargaon, (Tel. Osmills Hargaon sugar Mills, Telephone Sitapur 2.)	Do.	Hargaon, Do.	Do.	1925	DS
41.	The Lakshmiji Sugar Mills Co., Ltd., M/D. Seth Kishorilal Saheb, Maholi, (Dt. Sitapur).	Maholi (Tel. Lakshmi—Maholi Telephone Sitapur 5.)	Do.	Maholi, E.I.R.	Buxar.	1250	DS

42.	Aira Sugar Factory, Prop: Indra Singh & Sons, Ltd., Tatanagar. Tele { Grams: Indrasingsons, Tatanagar. Tele { Phone: Tatanagar 18.	Khamaria, P.O. Aira Estate (Tel. "Aira", Lakhimpore Kheri, Phone: No. 24 Lakhimpur Kheri.)	Kheri.	Lakhimpore kheri, O.T.R,	Bahramghat.	800	DS
43.	The Hindusthan Sugar Mills, Ltd., M/A. Bachhraj and Co., Ltd., Jehangir Wadia Building, 51, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Shree, Bombay. Tele { Phone: Bombay 30027. Calcutta Office :— C/o. The East India Development Co., Ltd., No. 23/24, Radha Bazar Street, Phone: Calcutta 3715.	Golagokaran Nath Kheri (Tel. Shree- Golagokaran Nath, Kheri, Telephone No. 1, Golagokaran Nath).	Do.	Golagokaran-nath, Do.	Do.	1950	DS
44.	Rosa Sugar Works & Distillery of Carew & Co., Ltd., M/A. Gladstone Lyall & Co., Ltd., 4, Fairlie Place, Calcutta. Tele { Grams: Ghat, Calcutta. Tele { Phone: Calcutta 168.	Rosa. (Telegram: Carew, Rosa Telephone 36.)	Shahjahanpur.	Rosa Jn. E.I.R.	......	725*	DS
45.	H. R. Sugar Factory, Ltd., M/D. Kunwar Jyoti Swarup Sahib, Nekpur, Bareilly.	Bareilly, (Tel. Sugar. Bareilly. Tel. No. 33. Bareilly.)	Bareilly.	Bareilly. Jn., E.I.R. & O.T.R.	Buxar.	902	DS
46.	The Kesar Sugar Works Ltd., M/A. Kilachand Devchand & Co., 45/47, Appollo Street, Bombay. Tele { Grams: Seeds. Bombay. Tele { Phone: Bombay 26506.	Baheri (Tel. Kesar, Baheri.)	Do.	Baheri, O.T.R.	Barhaj.	1280	DS
47.	§L. H. Sugar Factories and Oil Mills, Ltd., M/D. Sahu Jagadish Prasad, Pilibhit, Telephone: Pilibhit 32 and 31.	Pilibhit, (Tel. Crystal-Pilibhit, Phone Pilibhit 32.)	Pilibhit.	Pilibhit, Do.	Do.	1800 (Double Tandem).	S

§Both the units working.

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
48.	Upper Ganges Sugar Mills, Ltd., M/A. Cotton Agents, Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams: Cotagent, Calcutta. Phone: Calcutta 562.	Seohara, (Tel. Birla, Seohara.)	Bijnor.	Seohara, E.I.R.	Buxar.	1350	DS
49.	Seth Shiv Prasad Banarsidas Sugar Mills, Lessee: Seth Banarsi Das Gupta.	Bijnor, (Tel. Sugar, Bijnor.)	Do.	Bijnor, Do.	Do.	1100/1200	DS
50.	The Dhampur Sugar Mills, Ltd., M/A. Kr. Murli Manohar Saheb, 13, Civil Lines, Bareilly, Telephone: Bareilly 53.	Dhampur, (Tel. Sugarmills, Dhampur.)	Do.	Dhampur, Do.	Do.	900	DS
51.	The Vijai Lakshmi Sugar Mills, Ltd., M/D. Seth Mathra Parshad. D/I. Seth Radhey Lal, Doiwala	Doiwala, (Tel. Lakshmi, Doiwala, Phone: Dehra-Dun 564.)	Dehra-Dun.	Doiwala, Do.	...	520*	DC DS
52.	The Ganga Sugar Corporation Ltd., H. O. Tabela Kakran, Outside Mai Hiran Gate, Jullundar City. Chairman: R. B. L. Isher Dass, M.A., LL B., The Mahalakshi Sugar Mills, Co., Ltd., Hamira (Kapurthala State), Dist. Jullundur.	Deoband. (Tel. Sugar, Deoband. Telephone: Deoband 23.)	Saharanpur.	Deoband, E. P. Rly.	...	800/1000	DC DS
53.	Rai Bahadur Narain Singh Sugar Mills Ltd., M/D. Sardar Rajdev Singh, 2, Curzon Road, New Delhi. Telephone: Delhi 7617.	Lhaksar, (Tel. Sugar, Lhaksar Jn., E. I. Telephone: Roorkee 35.)	Do.	Lahaksar, E. I. R.	...	1250	DS

54.	The Lord Krishna Sugar Mills, Ltd., Regd. Office: Rupar, East Punjab. M/D. Seth Shiv Parsad.	Saharanpur. (Tel. Sugar, Saharanpur, Telephone : Saharanpur 3 & 3A.)	Do.	Saharanpur, E. P. Rly.	Buxar.	1250	DS
55.	Sir Shadi Lal Sugar and General Mills, Ltd., M/A. M/S. Hariraj Swarup, Rajendralal & Bros., Muzaffarnagar. Tele { Grams: Swesugmill, Muzaffarnagar. Phone: Muzaffarnagar 32.	Mansurpur, (Tel. Swesugmill, Mansurpur, Telephone: Mansurpur 44 & 69.)	Muzaffarnagar.	Mansurpur, Do.	Bombay.	1000/1200	DS
56.	Upper India Sugar Mills, Ltd., M/D. Rai Saheb P. Srikrishna Deva Bhargava. M/A. M/S. Mitra Mandal, Khatauli, Tele { Grams: Sugar, Khatauli, Phone: Muzaffarnagar 96.	Khatauli, (Telephone: Muzaffarnagar 96.)	Do.	Khatauli, Do.	...	1149/1400	DS
57.	Amritsar Sugar Mills Co., Ltd., M/A. M/S. Amar Singh & Co., Amritsar (Punjab). Tele { Grams: Refiners, Amritsar. Phone: Amritsar 597.	Rohanakalan, P.O. Rohanamills, (Tel. Refiners, Muzaffarnagar. Phone: Muzaffarnagar 41.)	Do.	Rohanakalan, Do.	Buxar.	1200	DS
58.	Upper Doab Sugar Mills, Ltd., M/A. M/S. Hariraj Swarup, Rajendralal, Debi Prosad & Brothers, Muzaffarnagar. Tele { Grams: Swesugmill, Muzaffarnagar. Phone: Muzaffarnagar 85 A and 32.	Shamli, (Tel. Sugarmills, Shamli. Phone: Shamli 32.)	Do.	Shamli, S. S. L. Rly.	Bombay.	1429	DS
59.	Diwan Sugar Mills, Prop. Messrs. Dhanpatmal, 29, Church Road, P. O. Box No. 49, Meerut Cantt.	Diwannagar, P. O. Meerut. Sakhoti Tanda, Meerut. (Tel. Diwanmills, Sakoti, Tanda E. P. Phone: Muzaffarnagar 77.)		Sakhoti Tanda, E. P. Rly.	Do.	716*	DS

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
Daurala Sugar Works, Pro. The Delhi Cloth and General Mills Co., Ltd., Delhi. Tele { Grams: Yarn, Delhi. Phone: Delhi 5243,	Daurala, (Tel. Sugarworks Daurala E. P. Telephone: Meerut 452.)	Meerut.	Daurala, E. P. Rly.	Bombay.	1400	DC
61. Jaswant Sugar Mills Ltd., M/A. National General Agencies Ltd., Meerut City, Meerut (U.P.) Calcutta Office: 12/A Ezra Mansions, 10, Government Place East, Calcutta.	Meerut City. (Telegrams: Godfearing. Telephone: Meerut 230.)	Do.	Meerut City, Do.	Do.	800/1100	DS
62. Ram Luxman Sugar Mills, Managing Proprietors. (1) M/S. Dinanath Nanakchand, Chawri Bazar, Delhi. Tele { Grams: Ensey, Delhi. Phone: 5004 and 6906. (2) R. S. Chiranjilal & Sons, Saddar Bazar, Delhi. Tele { Grams: Consult, Delhi. Phone: 5011.	Mohiuddinpur, (Tel. Sugarmills, Mohiuddinpur E. P. Telephone: Meerut 482.)	Do.	Muhiuddinpur, Do.	Buxar.	600/800*	DS
63. The Modi Sugar Mills Ltd., M/A. Rai Bahadur Multanimal & Sons Ltd.,	Modinagar, (Tel. Modisugar, Modinagar, Phone: Meerut 513.)	Do.	Modinagar, Do.	Bombay.	1000	DS
64. Simbhaoli Sugar Mills, Ltd., Chairman, Sardar Raghbir, Singh Sadhanwalia C.I.E., O.B.E Managing Director: Tele { Grams: Sandhanwalia, Simbhaoli, Phone: Hapur 77. E.I.R.	Simbhaoli, P. O. Baksar.	Do.	Simbhaoli, E. I. Rly.	Do.	800	DS

65. †The Gokulnagar Sugar Mills Co., Ltd., M/A. Sir Gokulchand Narang & Co., Ltd., 11, Siri Ram Road, Delhi.	Kichha, (Tel. Sugar Factory, Kichha.)	Naini-Tal.	Gokulnagar, O. T. Rly.	Barhaj.	800	DS
66. L. H. Sugar Factories & Oil Mill, Ltd., Director-in-charge: Kunwar, Ram Raghbir Saheb, B.SC.,	Kashipur, (Tel. Crystal, Kashipur.)	Do.	Kashipur, Do.	Do.	650	DS
67. The Neoli Sugar Factory, Props. The Saraswati Sugar Syndicate Ltd., P. O. Abdullapur, Dist. Ambala. Telegram: Saraswati, Abdullapur.	Manpore Nagaria, P. O. Neoli. (Tel. Sucrose, Neoli, Etah.)	Etah.	Manpore Nagaria, Do.	Do.	873	DS
68. Kamlapat Motilal (Sugar Mills) Prop. Messrs. Kamlapat Motilal, P. B. 69, Cawnpore, Tele { Grams: Lalmoti, Cawnpore. Phone: 2315.	P. O. Motinagar, (Telegram: Lalmoti. Fyzabad. Telephone No. 41, Fyzabad.)	Fyzabad.	Masodha, E. I. Rly. K. M. Sugar Mills Siding, E. I. Rly.	Ajodhya ghat.	Cane 1000 Gur 100.	DS
69. Experimental Sugar Factory, Indian Institute of Sugar Technology.	Nawabganj.	Cawnpore.	Rawatpur, B. B. & C. I.	Buxar.	34	
70. Kundan Sugar Mills, Managing Proprietor: Seth Kundan Lal, Amroha, Dist. Moradabad.	Amroha, (Tel. Kundan, Amroha).	Moradabad.	Amroha, E. I. Rly.	Do.	500	DS
71. The Ajudhia Sugar Mills, Prop. Lakshmiji Sugar Mills Co., Ltd., 2, Under Hill Lane, New Delhi. Telegram: Ajudhia, New Delhi.	P. O. Raja-Ka-Sahaspur, (Tel. Sugarmill, Moradabad. Phone: Moradabad 79, Raja-Ka-Sahaspur Special line.)	Do.	Raja-ka-Sahaspur, Do.	Do.	1305	DS

EAST PUNJAB.

1. Saraswati Sugar Mills, M/D. Mr. D. D. Puri, Prop. The Saraswati Sugar Syndicate Ltd.	P. O. Abdullapur, (Telegram: Saraswati, Abdullapur. Telephone: Jagadhri 27.)	Ambala.	Jagadhri, E. P. Rly.	Do.	400	DC & DS

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
ORISSA.						
1. † Aska Sugar Works & Distillery, Props. Messrs. National Agency, Cuttack, (Tel. "Massecuite", Aska.)	Aska	Ganjam.	Berhampur, B. N. Rly.	...	100/120*	
2. Jeypore Sugar Co., Ltd., M/A. Messrs. R. S. Industrial Corporation Ltd., 42-A, Peter's Road, Cathedral P. O., Madras, Manager, Sri N. Ramaseshaiah, B.A., B.L. Rayagada, (Dist. Koraput). (Tel. Jeysuco, Rayagada).	Rayagada.	Koraput.	Rayaghada, Do.	Vizagapatam.	250	DS
MADRAS.						
1. The Vizagapatam Sugar & Refinery, Ltd., Anakapalle. M/A. Messrs. Kantilal & Seth Ltd., 14, New Queens Road, Bombay.	Anakapalle. (Tel. "Sugars" Anakapalle.	Vizagapatam	Anakapalle, M. & S. M. Rly.	Do.	250	DS
2. Etikoppaka Sugar Factory, M/A. The Etikoppaka Cooperative, Agriculture & Industrial Society, Ltd., (Tel. Sugar Factory, Etikoppaka, (*Via* Narasapatam Road)	Etikoppaka.	Vizagapatam	Narasapatam Road, M. & S. M. Rly.	Vizagapatam	75	DS
3. The Sri Rama Sugar Mills, Ltd., Prop. Raja of Bobbili, Raja of Venkatagiri and others, Bobbili, (Tel. Sugar, Bobbili.)	Bobbili.	Do.	Bobbili, B.N.R.	......	150	DS
4. The Sri Rama Sugar Mills, Ltd., Seethanagaram.	Seethanagaram.	Do.	Seetanagaram, Do.	......	300	DS
5. The K. C. P. Ltd., Proprietors of Vuyyuru Sugar Factory. (Tel. "Krushna" Vuyyuru).	Vuyyuru.	Kistna.	Bezwada, M. & S. M. Rly.	......	850/1000	DS

6. †The Kirlampudi Sugar Mills Ltd., M/A. M/S. K. V. Subbarao & Co., Head Office: 99-A, Armenian Street, P. B. N. 1519, G. T. Madras. Tele { Grams: Mechelec, Madras. Phone: Madras 3006.	Pithapuram.	East Godavari.	Pithapuram, Do.	Coconada.	600	DS
7. The Deccan Sugar & Abkari Co., Ltd., M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Samalkot, (Tel. Deccan, Samalkot).	Do.	Samalkot, Do.	Do.	250 (cane) 40 (Gur) char.	
8. †M/S. Godavari Sugars & Refiners Ltd., M/A. MS. AIDCO Ltd. Loane Square, Hakim Mansions, G. T. Madras. Tele { Grams: Ferage, Madras. Phone: No. 3006, Madras.	Tanuku.	West Do.	Tanuku, Do.	.....	200	DS
9. The East India Distilleries & Sugar Factories Ltd., M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Nelikuppam. (Tel. Distimulo, Nelikuppam).	South Arcot.	Nelikuppam, S.I.R.	Cuddalore.	2200*	DS
10. The India Sugar & Refineries Ltd.,	Hospet (Tel. Sugars, Hospet).	Bellary.	Hospet, M. & S. M. R.	......	600	DS
11. †The Coimbatore Agro Industries Ltd., M/A. M/S. V. C. Vellingiri Gounder & Co.	Podadur.	Coimbatore.	Podanur, S.I.Ry.	......	50*	
12. The Murugappa Sugar Co., Ltd., Mailpatti, (N. Arcot)	Mailpatti.	N. Arcot.	Mailpatti, M. & S. M. Ry.	Madras.	Cane 75	S

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
13.	The Deccan Sugar & Abkari Co., Ltd., Pugalur Sugar Factory, M/A. Parry & Co., Ltd., P. B. No. 12, Madras Tele { Grams: Parry, Madras. Phone: Madras 2983.	Pugalur Sugar Factory P.O. (Tel. Desuabco. Pugalur.)	Trichinopoly	Pugalur, S.I.Ry.	......	500	S

BOMBAY.

	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
1.	The Saswad Mali Sugar Factory, Ltd., Head Office: P. O. Malinagar. M/D. H. B. Grime, Esqr. Bombay Office, Sir Vithaldas Chambers, 16, Appollo Street, Fort, Bombay. Tele { Grams: Malisugar, Bombay. Phone: Bombay 20134.	P.O. Malinagar, (Tel. Malisugar, Akluj).	Sholapur.	{ Kurduwadi, G.I.P.Ry. Pandharpur, B.L.R.	......	450/500	DS
2.	The Brihan Maharashtra Sugar Syndicate, Ltd. M/A. C. G. Agashe & Co., Commonwealth Building, 980, Sadashiv Luxmi Road, Poona 2. Tele { Grams: Shree, Poona & Akluj. Phone: 9—138.	P.O. Shreepur.	Do.	Pandharpur, B.L.R. Diksal, G.I.P.R.	...... **[Order placed for a plant of 1,000 tons capacity]**	300/350	DS
3.	Walchandnagar Industries Ltd., M/A. The Premier Construction Co., Ltd., Construction House, Ballard Estate, Bombay. Tele { Grams: Walsakhar, Bombay. Phone: Bombay 26036, 37, 38 and 39.	P.O. Walchand-nagar, (Tel. Walsakhar, Diksal G.I.P.)	Poona.	Diksal, G.I.P.R. Baramati, D.B.Ry. Nira, M. & S. M. Ry.	Bombay.	120[illegible]	DS
4.	The Ravalgaon Sugar Farm, Ltd., M/A. Walchand & Co., Ltd., Construction House, Ballard Estate, Bombay. Tele { Grams: Rasufald, Bombay. Phone: Bombay 26036, 37, 38 and 39.	Ravalgaon. (Tel. Rasufald, Malegaon.)	Nasik	Manmad, G.I.P.Ry.	Do.	[illegible]	DS

5.	The Belapur Co., Ltd., Managers, W. H. Brady & Co., Ltd., Royal Insurance Building, Church Gate Street, Fort, Bombay. Tele { Grams: Brix, Bombay. Phone: Bombay 25037.	Harigaon, (Tel. Belapur Company— Belapur Road.)	Ahmednagar.	Belapur, G.I.P.Ry.	Bombay	1000	DS
6.	The Maharastra Sugar Mills Ltd., M/A. M. L. Dahanukar & Co., Ltd., Industrial Assurance Buildings. 3rd Floor, Opposite Church Gate Station, Fort, Bombay. Tele { Grams: Sugar Mills, Bombay. Phone: Bombay 30825,	P.O. Tilaknagar. Belapur Road. (Tele-Sugar Mills, Belapur Road. Phone—Belapur Road P.C.O. Extension.)	Do.	Do.	Do.	1000/1200	DS
7.	Belvandi Sugar Farm, Ltd., M/A. M. L. Dahanukar & Co., Ltd., Industrial Assurance Building, 3rd Floor. Opposite Church Gate Station, Fort, Bombay. Tele { Grams: Design, Bombay. Phone: Bombay 30825.	P.O. Belvandi Sugar Farm, (Tele. Sugar farm, Belvandi, G.I.P.)	Do.	Belvandi, Do.	Do.	250/300	DS
8.	Godavari Sugar Mills Ltd., M/A. K. J. Somaiya & Sons, Fazalbhoy Building, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Manikaka, Bombay. Phone: Bombay 31921.	Sakarwadi	Do.	Kanhegaon. Do.	......	750/800	DS
9.	The Somaiya Sugar Factory, Controlled by Godavari Sugar Mills, Ltd., M/A. K. J. Somaiya & Sons, Fazalbhoy Building, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Manikaka, Bombay. Phone: Bombay 31921.	Lakshmiwadi, via Kopergaon	Do.	Kopergaon. Do.	......	700/750	DS

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
10. Shree Changdeo Sugar Mills Ltd., M/A. Messrs. A. H. Bhiwandiwalla & Co., 32, Appollo Street., Fort, Bombay. Tele. Jaysugar, Bombay.	P.O. Changdeonagar, Tele. Sugarmills, Puntamba, G.I.P.	Ahmednagar	Puntamba, G.I.P. Rly.	Bombay.	350	DS

INDIAN STATES.

(Kashmir.)

1. † Shree Yuvraj Sugar Mills, Ltd., M/A. Messrs. Karam Chand Thapar & Bros. (Jammu & Kashmir) Ltd., Ranbirsinghpura.	Ranbir singh pura.	Jammu & Kashmir State.	Ranbirsinghpura N.W.R.	Karachi.	600	DS

(Punjab.)

2. Jagatji Sugar Mills, Co., Ltd., M/A. Narang Brothers & Co., Ltd., 11, Siri Ram Road, Delhi. Telegrams: Narang, Delhi.	Phagwara, (Tel. Sugar Factory, Phagwara Tel. Phagwara 101).	Kapurthala. State.	Phagwara, E.P.Ry.	Bombay.	850	DC
3. The Mahalaxmi Sugar Mills Co., Ltd., (The Paramjit Sugar Factory) Tele { Grams: Sugar, Hamira. Phone: Kapurthala 50.	Hamira P.O. (Kapurthala State.)	Do.	Hamira, Do.	Do.	1800	DC/DS

(United Provinces.)

4. Raza Sugar Co., Ltd., M/A. Govan Bros. (Rampur) Ltd., Rampur State. (Telephone: 291.)	Rampur (Tel. Razaco-Rampur (State) U.P. Telephone 332).	Rampur State.	Rampur, E.I.R.	Buxar.	1150	DS
5. Buland Sugar Co., Ltd., M/A. Govan Bros., (Rampur) Ltd., Rampur State. (Telepone: 291.)	Rampur (Tel. Buland-Rampur (State) U.P. Telephone 276.)	Do.	Do.	Do.	1150	DC/DS

		(Mysore.)					
6.	Mysore Sugar Co., Ltd., H. O. Sri Jayachamaraja Wadiyar Road, Bangalore City. Tele { Grams: Mysugar, Bangalore. Phone: 2133.	Mandya, (Tel. Mysugar, Mandya).	Mysore State.	Mandya, M.S.R.	......	1400	DS
		(Bombay.)					
7.	The Kolhapur Sugar Mills, M/A. United Agencies Ltd., P. O. Kolhapur, Residency. Tele { Grams: Sugarmills. Phone: 277 Kolhapur.	Kasaba Bavada, Kolhapur. (Tel. Sugar Mills. Kolhapur).	Kolhapur State.	Kolhapur, M. & S.M.R.	Bombay.	500	DS
8.	The Phaltan Sugar Works Ltd., M/A. Mafatlal, Apte & Kantilal, Ltd. Sakharwadi, Satara.	Sakharwadi Phaltan State, (Tel. Sakhar, Phaltan)	Phaltan State.	Nira, Do.	Do.	625/650	DS
9.	Krishna Sugar Mills Ltd., M/A. M/S. Vinchurkar & Co., P. O. Krishna Kittur, Dist. Belgaum, *Via*-Kudchi. Tel. Address—Krishna Sugar, Kudchi.	Kittur.	Miraj Jr. State.	Shedbal, Do. Kudchi, Do.	Do.	200	DS
10.	The Ugar Sugar Works Ltd., Managing Agents, M/S. Shirgaokar Brothers, *Kolhapur-Shahupuri.*	Ugar Khurd.	Sangli State. (Belgaum Dist.)	Ugar Khurd, Do.	Mormugoa Harbour	500	DS
		(Central India.)					
11.	The Jaora Sugar Mills, Prop. Kaluram Govindram, Jaora C. I., Telegram—Sugar, Jaora.	Jaora	Jaora State.	Jaora, B.B. & C.I.	Bombay.	750	DS
12.	Bhopal Sugar Industries Ltd., M/A. Messrs. A. H. Bhiwandiwalla & Co., Seohore.	Sehore.	Bhopal State.	Sehore. G.I.P.R.	......	750	DS

No.	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
13.	Sri Lakshmi Narayan Sugar Works Ltd., M/A. M. D. Singh & Co., 20, Garden Reach Road, Calcutta.	Harpalpur.	Alipura State.	Harpalpur, G.I.P. Rly.	......	100	S
14.	The Gwalior Sugar & Co., Ltd., Sir J. P. Srivastava & Sons (**Rampur**) **Ltd.**, Rampur State, U.P.	Dabra, (Tel. Sugar, Dabra, G.I.P.)	Gwalior State.	Dabra, Do.	......	700	DC & DS
15. †	The Jiwaji Rao Sugar Co., Ltd., M/A. M/S. Shapoorji Pallonji (**Gwalior**) **Ltd.**, Dalauda.	Dalauda.	Mandsaur.	Dalauda, B.B. & C.I.	Bombay.	500	
16.	The Maharani Parvati Sugar Mills **Ltd.**, Tel. Sugarmills, Sarangpur.	P.O. & Tel. Office. Sarangpur.	Dewas State J.B.	Akodia, G.I.P.	......	100	
17.	Seth Govindram Sugar Mills, Proprietors M/S. Nandlal Bachulal.	Mehidpur Road.	Holkar State.	Mehidpur Road, B.B. & C.I.R.	Bombay.	300	DS
18. †	Shree Vikram Sugar Mills, Ltd., M/A. M/S. Hiralall & Co., 21, Jashwant Niwas Road, Indore Tele { Grams: Truth, Indore. Phone: 280 Indore.	Alote.	Dewas State Senior	Vikramgarh —Alote, Do.	Do.	500	DS

(Rajputana)

No.	Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
19.	The Bikaner Industrial Corporation **Ltd.**, Managing Agents; The Podar Bapna **Ltd.**, Tel. Industries, Sir Ganganagar.	Sri Ganganagar.	Bikaner State.	Sri Ganganagar Bk. S. Ry.	......	600	DS
20.	The Mewar Sugar Mills, Ltd., M/A. Dhandhania Kedia & Co., Bhupalsagar, (Udaipur State).	Bhupalsagar (Telegram, Sugar-mill, Bhupalsagar Me. S.	Udaipur State.	Bhupalsagar, Me. S.R.	Bombay.	500	DS
21.	Shree Bijay Sugar Mills, Bijainagar.	Bijainagar.	Ajmere.	Bijainagar, B.B. & C.I.Ry.	......	350	DS

(Hyderabad)

22. The Nizam Sugar Factory Ltd., M/A. H. E. H. The Nizam's Industrial Trust Fund, Represented by the Hyderabad Construction Co., Ltd., Abid Road, Hyderabad (Deccan). Telephone: Hyderabad (Deccan).2704.	Shakarnagar (Tel. Sugar.	Hyderabad State.	Shakarnar Station. Nizam St. Ry.	......	1300/1500	DS
23.† The Salar Jung Sugar Mills, Ltd., M/A. M/S. B. M. Murarilal & Co., 499A (2), New Road, Opposite Bashir Bagh, Hyderabad, Deccan Telegrams: 'Sucros' Hyderabad, Dn.	Munirabad	Do.	Munirabad, M. & S.M Ry.	Goa.	250/300	DS
		Factory nearly put out of Commission due to Hyderabad disturbances in September, 1948]				

(Saurashtra)

24. Bhavnagar Sugar Mills, Ltd., M/A. M/S. N. P. Deliwala & Sons., Ltd., Opp. General Post Office, Bhavnagar.	Dhola Jn.	Bhavnagar State.	Dhola Jn., B.S.Rly.	Bhavnagar Port.	350–400	DS

(Travancore)

25. Pamba River Factory of The Travancore Sugars & Chemicals Ltd., Secretaries & Treasurers: Messrs. Parry & Co., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Tiruvalla, (Tele. Sugars, Tiruvalla. Phone: Trivandam 280).	Travancore State.	Kottarakara, S.I.Rv.	Cochin.	500	DS

DETAILED LIST OF GUR REFINERIES IN THE UNION OF INDIA, 1948

BIHAR.

1. Siwan Deshi Sugar Factory, Prop. M/S. Noori Mian & Co., Bhatni, Gorakhpur.	Siwan.	Saran.	Savan, O. & T. Rly.	Sava O.A

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)
UNITED PROVINCES.					
1. Standard Refinery & Distillery Ltd., M/A. Karam Chand Thapar & Bros. Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual. Phone: Calcutta 2331/2.	Unac	Unao.	Unao, E.I.Rly & O. & T.Rly.	Buxar.	75
2. Baijnath Balmakund Sugar Mills, Prop. Mrs. Bankey Beharilal Singhania, Lalbankey St., Cawnpore.	Anwarganj.	Cawnpore.	Anwarganj, B.B. & C.I.Ry.	Barhaj.	27
PUNJAB.					
1. Amritsar Sugar Mills Co., Ltd., M/A. M/S. Amarsingh & Co., P. O. H. & S. Factory, Amritsar. Phone: 597.	Gr. Trunk Road, Amritsar (Tel. Refiner, Amritsar).	Amritsar.	Amritsar.	Bombay.	42
MADRAS.					
1. Al. Vr. St. Sugarmills & Distillery, Prop. Al. Vr. St. Veerappa Chettiar, Zamindar of Thevaram Devakottai.	Tachanallur, (Tel. Sugarmill, Tirunelveli Ind).	Tinnevelly.	Tinnevelly Jn., S.I.Ry.	Tuticorin.	
2. Lakshmi Sugar Mills, Alvatirunagari, (Tel. Luxmi Sugar, Alvartirunagari). Prop. T. A. Daivanayaga Thevar, Tinnevelly.	Near Laksmanatope. Tiruchendur Taluk.	Do.	Alwar, Tirunagari, Do.	Do.	
INDIAN STATES.					
1. The Travancore Sugars & Chemicals Ltd., Secretaries & Treasurers: Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Thuckalay, (Tel. Sugars Thuckalay. (Tel. Trivandrum 280).	Travancore State	Trivandrum Do.	Trivandrum.	

DETAILED LIST OF SUGAR MILLS (VACUUM PAN) IN PAKISTAN, 1948.

EXPLANATION:—

Asterisk in the last but one column denotes mills which have also got Gur-refining plants.

† Mills marked thus did not work during 1947-48 season.

‡ „ „ „ are reported to be under construction.

"S"=Sulphitation. "DS"=Double Sulphitation. "C"=Carbonatation. "DC"=Double Carbonatation.

EAST BENGAL (EASTERN PAKISTAN)

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
1. North Bengal Sugar Mills Co., Ltd. M/A. M/S. Soorajmull Nagarmull, 8, Dalhousie Square East, Calcutta. Tele { Grams: Sugar, Calcutta,. Phone: Calcutta, 2871-2879. (9 Lines.)	Gopalpur. (Tel. Sugar, Gopalpur, Rajshahi.)	Rajshahi.	Gopalpur, E. B. Rly.	Saraghat.	1250*	DS
2. Setabganj Sugar Mills Ltd., M/A. M/S. Soorajmull Nagarmull, 8, Dalhousie Square East, Calcutta. Tele { Grams: Sugar, Calcutta. Phone: Cal. 2871-2879. (9 Lines)	Setabganj. (Tel. Sugar, Setabganj, Dinajpur.)	Dinajpur.	Setabganj, Do.	Manihari.	800*	DS
3. Carew & Co., Ltd., M/A. M/S. Gladstone Lyall & Co., Ltd., 4, Fairlie Place, Calcutta. Tele { Grams: Ghat, Calcutta. Phone: Calcutta 168.	Darsana.	Kusthia.	Darsana, Do.	Lalgola.	1500*	DS
4. †The Desbandhu Sugar Mills Ltd., M/A. The Industrial Agency, 58, Patuatully, Dacca.	Charsindur.	Dacca.	Ghorashal (Flag), Do.	Sultanpur Ghat.	250	DS

Name of Mill, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
5. †Dass Sugar Corporation, Ltd., M/A. Dass Brothers, 29, Strand Road, Calcutta. Tele { Grams: Marvellous, Calcutta. Phone: Calcutta 3385. (3 Lines.)	P. O. Kishorganj. (Tel. Dayamayee, Kishorganj.)	Mymensingh.	Kishorganj, E. B. Rly.	...	400	DS

WESTERN PUNJAB.

1. †The Gujranwalla Sugar Mills Co., M/A. Narang Bros., Ltd., 3, Montgomery Road, Lahore. Singh & Co., Ltd., Civil Station, Gujranwala. Tele { Grams: Narang, Lahore. Phone: Lahore 4767.	Rahwali. (Tel. Sugarmill, Gujranwala. Telephone: Gujranwala 64.)	Gujranwala.	Rahwali, N. W. Rly.	Karachi.	300/450	DS
2. †The Pattoki Sugar Works, Pattoki, Prop. Seth C. K. Delliwalla (Goa), Civil Lines, Bareilly, U.P.	Pattoki.	Lahore	Pattoki, Do.	Do.	100	

N. W. F. PROVINCE.

1. The Frontier Sugar Mills & Distillery Ltd., Tele { Grams: Sugar Mills, Takht-i-Bhai. Phone: 27 Mardan.	Takht-i-Bhai.	Mardan.	Takht-i-Bhai, Do.	Do.	400/600	DC/S
2. ‡The Premier Sugar Mills & Distillery Co., Ltd., Chairman R. B. L. Isherdas, Mardan.	Mardan. (Tel. Premier, Mardan.)	Do.	Mardan, Do.	Do.	3000	DC

List of Refineries on next page.

LIST OF REFINERIES AND CANE FACTORIES HAVING REFINING PLANTS.

1. *U. P.—*

   Baijnath Balmukund Sugar Mills, Anwarganj, Cawnpore.

   The Burhwal Sugar Mills Co. Ltd., Burhwal P. O. Ramnagar, (Barabanki).

   Cawnpore Sugar Works Ltd., Cooperganj, Cawnpore.

   Kamlapat Motilal Gutiaya Sugar Mills, P. B. No. 69, Cawnpore.

   Ishwari Khetan Sugar Mills Ltd., P. O. Lakshmiganj, (Gorakhpur).

   Ramchand & Sons Sugar Mills, P. B. No. 12, Aishbagh, Lucknow.

   Tribeni Deshi Sugar Works, Naini, Distt. Allahabad.

   The Unao Sugar Mills, Unao.

2. *Bihar—*

   The Ganga Deshi Sugar Factory Ltd., P. O. Buxar-Gujadharganj, E. I. Rly.

3. *Bengal—*

   North Bengal Sugar Mills Co. Ltd., P. O. Gopalganj, Distt. Rajshahi.

4. *Punjab—*

   The Jagatjit Sugar Mills Co. Ltd., P. O. Phagwara, Kapurthala State (Punjab).

5. *Madras—*

   Al. Vr. St. Sugar Mills and Distillery, Tackarallve, Tinnevelly Distt. (S. I.)

   The Coimbatore Co-operative and Sugar Manufacturing Society Ltd. Podanur, (S. I. Rly.)

   The Deccan Sugar and Abkari Co. Ltd., P. B. No. 12, Madras.

   The East India Distilleries and Sugar Factories Ltd., P. B. No. 12, Madras.

   Murugappa Sugar Co. Ltd., Mailpatti (M. S. M. Rly.), North Arcot District.

   T. A. Rm. Lakshmi Sugar Mills, Alvartirunagari, Tinnevelly Distt., (S. India).

6. *Indian States—*

   The Travancore Sugar and Chemicals Ltd., P. B. No. 12, Madras.

GEOGRAPHICAL DISTRIBUTION
OF
SUGAR MILLS IN THE UNION OF INDIA
(1948)

Province.	Cane Factories.	Gur refineries only.	Total.	Approximate Annual Production of Sugar.
West Bengal	4	...	4	10 lakhs tons
Bihar	32	1	33	
United Provinces ...	71	2	73	
Punjab	1	1	2	
Madras	13	2	15	
Bombay	10	...	10	
Orissa	2	...	2	
Indian States	25	1	24	
TOTAL ...	158	7	165	

GEOGRAPHICAL DISTRIBUTION
OF
SUGAR MILLS IN PAKISTAN
(1948)

Province.	Cane Factories.	Gur refineries only.	Total.	Approximate Annual Production of Sugar.
East Bengal	5	...	5	20,000 tons
West Punjab	2	...	2	
N.-W. F. P.	2	...	2	
TOTAL ...	9	...	9	

No. of factories in the Union of India and Pakistan (including Gur Refineries) actually working in the season 1947-48 was about 141

No. of factories in the Union of India and Pakistan (including Gur Refineries) that did not work during the season 1947-48 (Factories under construction included) ... 33

Bombay, 30th October, 1948 GANDHI & CO. (*Publishers*)

"We'll always be a Tearose family!"
Mother
with her eye on the monthly budget, votes for Tearose every time. "It's so economical", she says, "there's no softening or wastage"
Tearose
Father
who luxuriates in a lovely lather, claims "It's grand! Tearose helps me clean up in quick time."
Sister
a budding beauty, declares "I simply adore its refreshing fragrance—it does wonders for my skin and complexion."
Brother
the youngest member, explains, "Tearose is so easy to use. e curved shape fits arms and legs—the cake doesn't slip out of my grasp."
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